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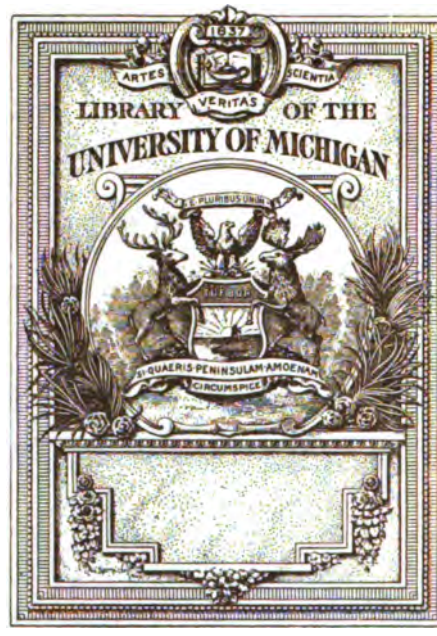
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WATER POWER BILL

HEARINGS

BEFORE THE

COMMITTEE ON THE PUBLIC LANDS

HOUSE OF REPRESENTATIVES

SIXTY-THIRD CONGRESS

SECOND SESSION

ON

H. R. 14893

TO PROVIDE FOR THE DEVELOPMENT OF WATER POWER AND THE USE OF PUBLIC LANDS IN RELATION THERETO, AND FOR OTHER PURPOSES

APRIL 30 AND MAY 1, 2, 4, 5, 6, 7, AND 8, 1914

WASHINGTON
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1914

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WATER POWER BILL.

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Thursday, April 30, 1914.

The committee met at 10 o'clock a. m., Hon. Scott Ferris (chairman) presiding.

The CHAIRMAN. It will be remembered, gentlemen, that this committee consented that H. R. 14893 should be the special order of business this morning at 10 o'clock.

I observe that we have with us quite a number of gentlemen who desire to be heard, but before we proceed with the hearing I would like to have the names and addresses of all the gentlemen who wish to be heard, with some sort of estimate of the amount of time each one thinks he will require. How many of you gentlemen desire to be heard?

(Ten gentlemen indicated their desire to be heard, the chairman taking their names and addresses, with the number of minutes each thought he would require.)

In view of the fact that Mr. Fisher intends to leave the city this afternoon the committee will hear him first; but before you proceed, Mr. Fisher, I will read the bill and the report we have on it from Secretary Lane:

A BILL To provide for the development of water power and the use of public lands in relation thereto, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior be, and hereby is, authorized and empowered, under general regulations to be fixed by him, to lease any part of the lands and other property of the United States (including Alaska), reserved or unreserved, including lands in national forests, national monuments, military and other reservations, not including national parks, for a period not longer than fifty years for the purpose of constructing, maintaining, and operating dams, water conduits, reservoirs, power houses, transmission lines, and other works necessary or convenient to the development, generation, transmission, and utilization of hydroelectric power, which leases shall be irrevocable except as herein provided, but which may be declared null and void upon breach of any of their terms: *Provided*, That such leases shall be given within or through any of said national forests, military or other reservation only upon a finding by the chief officer of the department under whose supervision such forest park, or reservation falls that the lease will not injure, destroy, or be inconsistent with the purpose for which such forest, park, or reservation was created or acquired: *Provided further*, That in the granting of leases under this act the Secretary of the Interior may, in his discretion, give preference to applications for leases for the development of electrical power for municipal uses and purposes.

SEC. 2. That each lease made in pursuance of this act shall provide for the reasonable development and continuous operation of the water power, and may provide that the lessee shall at no time, without the consent of the Secretary of the Interior, contract for the delivery to any one consumer of electrical energy in excess of fifty per centum of the total output.

SEC. 3. That in case of the development, generation, transmission, and use of power or energy under such a lease in a Territory, or in two or more States, the regulation and control of charges for service to consumers is hereby conferred upon the Secretary of the Interior or committed to such body as may be later provided by Federal statute: *Provided*, "That the physical combination of plants or lines for the generation, distribution, and use of power or energy under this act or under leases given hereunder may be permitted, in the discretion of the Secretary, but combinations, agreements, arrangements, or understandings, express or implied, to limit the output of electrical energy, to restrain trade with foreign nations or between two or more States or within any one State, or to fix, maintain, or increase prices for electrical energy or service is hereby forbidden."

SEC. 4. That no lease issued under this act shall be assignable or transferable, and no sale or delivery of power to a distributing company shall be made, except upon the written consent of the Secretary of the Interior.

SEC. 5. That after not less than three years' notice the United States shall have the right at any time, from and after fifty years from the date of any lease issued hereunder, to take over the properties which are dependent, in whole or in part, for their usefulness on the continuance of the lease herein provided for, which may be acquired by any lessee acting under the provisions of this act, upon condition that it shall pay, before taking possession, first, the actual cost of rights of way, water rights, lands, and interests therein purchased and used by the lessee in the generation and distribution of electrical energy under the lease, and, second, the reasonable valuation of all other property taken over, including structurs and fixtures acquired, erected, or placed upon the lands and included in the generation or distribution plant, and which are dependent as hereinabove set forth, such reasonable values to be determined by mutual agreement between the Secretary of the Interior and the lessees, and, in case they can not agree, by proceedings instituted in the United States circuit court for that purpose: *Provided*, That such reasonable valuation shall not include or be affected by the value of the franchise or good will or any other intangible element.

SEC. 6. That in lieu of taking over, maintaining, and operating the properties, as provided in section 5 hereof, the United States may, at its option, and at the same time and under the same conditions prescribed in said section 5, take over and lease the same to another lessee upon such terms, under such conditions, and for such periods as applicable laws may then authorize, upon the condition that the new lessee shall first take over, acquire, and pay for the properties of the first lessee, under the condition and in form and manner provided in section 5 hereof, or at the option of the United States the lease may be renewed to the original lessee, upon such terms and conditions and for such period as may be authorized under the then existing applicable laws.

SEC. 7. That where, in the judgment of the Secretary of the Interior, the public interest requires or justifies the execution by any lessee of contracts for the sale and delivery of electrical energy for periods extending beyond the life of the lease, such contracts may be entered into upon the approval of the said Secretary, and thereafter, in the event of the exercise of the option of the United States to take over the plant in the manner provided in sections 5 or 6 hereof, the United States or its new lessee shall assume and fulfill all such contracts entered into by the first lessee.

SEC. 8. That for the occupancy and use of lands and other property of the United States permitted under this act the Secretary of the Interior is authorized to fix in the lease and collect charges or rentals for all power developed and sold or used by the lessee for any purpose other than the operation of the plant, the proceeds to be used and disposed of, so far as may be necessary, in payment of the cost of administration of this act and of leases or permits thereunder, and the surplus over such cost of administration shall be paid into, reserved, and appropriated as a part of the reclamation fund created by the act of Congress approved June 17, 1902 (32 Stat. L., p. 388), and after use thereof in the construction of reclamation works and upon return to the reclamation fund of any such moneys in the manner provided by the reclamation act, 50 per cent of the amounts so utilized in and returned to the reclamation fund shall be paid by the Secretary of the Treasury after the expiration of each fiscal year to the State within the boundaries of which the hydroelectric power or energy is generated and developed, said moneys to be used by such State for the support of public schools or other educational institutions or for the construction of public improvements, as the legislature of the State may direct.

SEC. 9. That the provisions of this act shall apply only to such States as have provided or which may provide a commission or other authority having full power to regulate rates and service of electrical power; and no lease or disposition of lands shall be made under this act in any State wherein such authority has not been provided by law.

SEC. 10. That where the Secretary of the Interior shall determine that the value of any lands, heretofore or hereafter reserved as water-power sites or for purposes in connection with water-power development or electrical transmission, will not be destroyed for such purposes by either location, entry, or disposal, the same may be allowed under applicable land laws upon the express condition that all such locations, entries, or other methods of disposal shall be subject to the sole right of the United States and its authorized lessees or grantees to enter upon, occupy, and use any part or all of such lands reasonably necessary for the accomplishment of all purposes connected with the development, generation, transmission, or utilization of power or energy, and all rights acquired in such lands shall be subject to a reservation of such sole right to the United States, its lessees or grantees, which reservation shall be expressed in the patent or other evidence of title: *Provided*, That locations, entries, selections, or filings heretofore allowed for lands reserved as water-power sites or in connection with water-power development or electrical transmission may proceed to approval or patent under and subject to the limitation and conditions in this section contained, but nothing herein shall be construed to deny or abridge rights now granted by law to those seeking to use the public lands for purposes of irrigation or placer mining alone.

SEC. 11. That the Secretary of the Interior is hereby authorized to require lessees to submit statements, representations, or reports, including information as to cost of water rights, lands, easements, and other property acquired, production, use, distribution, and sale of energy, all of which statements, representations, or reports so required shall be upon oath, unless otherwise specified, and in such form and upon such blanks as the Secretary of the Interior may require; and any person making any false statement, representation, or report under oath shall be subject to punishment as for perjury.

SEC. 12. That any such lease may be forfeited and canceled, by appropriate proceedings only, in a court of competent jurisdiction whenever the lessee, after reasonable notice, as prescribed in the lease, shall fail to comply with the terms of this act or with such conditions not inconsistent herewith as may be specifically recited in the lease.

SEC. 13. That the Secretary of the Interior is hereby authorized to perform any and all acts and to make such rules and regulations as may be necessary and proper for the purpose of carrying the provisions of this act into full force and effect.

SEC. 14. That all acts and parts of acts inconsistent herewith are hereby repealed.

DEPARTMENT OF THE INTERIOR,
Washington, April 29, 1914.

Hon. SCOTT FERRIS,
Chairman Committee on the Public Lands,
House of Representatives.

MY DEAR MR. FERRIS: As stated in my annual report for the year ended June 30, 1913, the future policy of the Government of the United States toward the use of public lands for the generation and transmission of electrical energy through the use of water power is one of the most important and perplexing problems confronting those who desire the development of the natural resources, particularly in the Western States. Many of the most valuable sites for this development have already been acquired by private interests and are held under titles which preclude adequate regulation and control in the public interest. This renders it the more vital and important that the remaining public lands useful for this purpose should be wisely dealt with.

Under existing conditions, due largely to inadequate laws relating to the matter, a condition of stagnation exists and our power resources are not fully used. If these resources are to be developed, such inducements must be offered capital as will cause it to undertake the work, but at the same time conditions must be imposed which will fully protect the public interest and preserve control not only over present developments, but over the future use of the sites

should conditions later require the adoption of a different method of handling the water-power resources.

The present development and use of electrical energy is, in my opinion, merely the beginning, and it is impossible to predict the scope and extent of future development or the varied uses to which this resource will eventually be put. This being the situation, it would be unwise to part in perpetuity with the lands susceptible of such development and 50 or 100 years from today awake to the realization that changed conditions have demonstrated the error of such disposition. It will be wiser to retain the fee to these lands for the present and leave to the future the opportunity to continue or change the policy now adopted.

The money return to the Federal Government is a matter of minor importance so long as the maximum development of a given site, the lowest possible rate to consumers, and prevention of monopoly be obtained.

Existing legislation governing the development of electrical energy is contained in the act of February 15, 1901 (31 Stat., 790), which authorizes the issuance by the Secretary of the Interior of a permit or license for the use of public lands for dams, reservoirs, transmission lines, etc., and which expressly provides:

"That any permission given by the Secretary of the Interior under the provisions of this act may be revoked by him, or his successor, in his discretion * * *."

This provision of law constitutes the chief bar to development. People are afraid to invest their money in water-power development under this law for fear that through arbitrary action their investment may be lost or impaired. A fixed tenure for a reasonable period, revocable for breach of law or of conditions of a lease through court proceedings, would encourage investment, protect the investor, and secure early development under conditions favorable both to the people and the investor.

H. R. 14893 in brief proposes: (1) The leasing of water-power sites for periods not exceeding 50 years, with preference to municipal uses and purposes; (2) that no lessee may, without consent of the Secretary of the Interior contract for the delivery to any one consumer of energy in excess of 50 per cent of the total output; (3) that in case of generation, transmission, and use of power in a Territory or in two or more States, charges for service to consumers shall be regulated and controlled by the Secretary of the Interior or such controlling body as may be provided by Federal statute; (4) that at the end of the 50-year period and after not less than 3 years' notice, the United States shall have the right to take over the properties, upon condition that it pay the actual cost of rights of way, water rights, lands and interests therein purchased and used by the lessee in the generation and distribution of power under the lease and the reasonable valuation of all other property taken over, excluding, however, franchise values, good will, or other intangible elements; (5) that in lieu of taking over the property the United States may, under the conditions just described, take over and lease to another lessee or may renew to the original lessee upon such terms and conditions as applicable laws may then authorize; (6) rentals are authorized to be collected for power, the proceeds to be used for cost of administration, the surplus to be paid into the reclamation fund and after being once used therein returned and 50 per cent thereof paid to the State in which the power is generated or developed; (7) the act is applicable only to those States which have provided or may provide a commission or other authority for the regulation of rates and service of intrastate electrical development and transmission; (8) forfeitures for failure to comply with the law or the conditions prescribed in the lease are to be through appropriate proceedings in court.

A map of the public-land States has been prepared under my instructions for the special use of your committee. This map shows separately the water-power plants developed wholly on private lands and the water-power plants and projects located in whole or in part on public lands and therefore subject to control by the Federal Government. It shows also the location of reserves on the public domain held for the development of power sites within them. The power capacity of the plants shown is 1,000,000 horsepower for plants wholly on private lands, and 2,200,000 horsepower for the plants in whole or in part on public lands. Plants having a capacity of 18,000,000 horsepower under low-water conditions and a possible maximum average capacity of 29,000,000 horsepower with developed storage can be constructed

in whole or in part on the power-site reserves and in the national forests. Tables showing more detailed data on the existing power plants will be submitted.

I earnestly recommend the enactment of H. R. 14803, so that proper use and development of this natural resource of the West may no longer be delayed.

Very truly, yours.

FRANKLIN K. LANE.

STATEMENT OF HON. WALTER L. FISHER.

The CHAIRMAN. You may proceed now, Mr. Fisher.

Mr. FISHER. Mr. Chairman and gentlemen of the committee, this matter is not only a matter of very great importance, but, as you gentlemen are undoubtedly aware, it is a matter not free from very considerable difficulty. I think, however, that most of the difficulties that have been thrown around it can be solved if we are really interested in finding a solution, rather than using the very objections or difficulties as a means of preventing action, or for opposing some particular suggestion that is made by somebody else.

In this matter, as in most matters of a very complex nature, a great deal depends on the attitude of mind on the part of the people who are working on it. If you wish to really adopt a constructive water-power policy I think you will find on consideration of this subject that most of the difficulties on which emphasis has been laid can be adjusted, and that a reasonable policy can be worked out.

Certainly there is no subject of legislation in which it is more important to have a constructive policy adopted by the Government than in this matter of water-power development. Secretary Lane's letter, to which you have just listened, is only the last of a long series of official communications on this subject. The bill before you is only the last, or the latest of a long series of bills that have been drawn upon the subject. Some of these bills have been rather complicated in their character: they have entered very largely into a mass of details, and some of them have been very simple and have left most of the details to be worked out under executive discretion. My own judgment is that a bill of the latter sort has certain advantages over a complicated bill, and that is one of a number of points in which I find myself in agreement with those representatives of the water-power interests, with whom I have come in contact officially and unofficially. While there are differences in that camp, as in others, in the main my experience has been that the water-power people interested in the development of water power and in financing and promoting water-power enterprises are very much impressed with the differences that exist in different cases, with the difficulties of having an inflexible general rule applicable to the whole subject and to all the different conditions. I think, therefore, there ought to be considerable flexibility in any policy that is adopted.

There are two main questions to be considered; but first let me say, on the importance of this question, just a word. I doubt whether it is necessary to add anything to what has already been said before this committee by Secretary Lane and others, but I presume that you gentlemen appreciate as keenly as anyone else that there is an immense amount of hydroelectric energy potentially in the West. Mr. Lane has given you an estimate of the vast amount

which, if it is developed, will add enormously to the prosperity of the West and to the prosperity of the entire country, of which the West is only a part, an integral part, whose interests are no different from the interests of the rest of the country, except in so far as the communities immediately adjacent to water-power enterprises are those which will get the first and most important benefit from the development of those enterprises.

It has been said so often now that it is trite that water power has this great advantage over any other source of motor energy, that it is not destroyed in the using, but is constantly renewed: that it is therefore of the greatest importance that it should be developed rather than we shall use such sources of energy as coal, which are destroyed in the using. We ought to conserve those sources and utilize such things as falling water, which are perpetually renewed.

Now, there are two great classes of interests that are naturally divergent in certain aspects and yet which must be reconciled or coordinated if any progress is to be made in the matter. There are the interests of the public and the interests of the private individual, or group of individuals, that does the developing; then there is the interest of the locality, and the interest of the general public as opposed to the locality. If you are going to make any progress at all you have to reconcile and coordinate those two sets of interests.

This will not be altogether easy. There are difficult points, but I think it is perfectly clear that it is possible to adjust both of those divergent interests on a fair basis—a basis which will encourage development and protect the development and at the same time protect the public interest and promote that. As to the divergence between the interests of the locality and the general or State or Federal interest, my personal view is that this is a bogie man, which only needs the light of day to have him disappear. It is my opinion that there is absolutely nothing in a rightly considered Federal water-power policy that does not embody all the precise things which a State government would wish to have embodied in a State policy. I mean that just as I state it. I don't think there is a single thing in a rightly considered Federal policy that ought not to be a part of a rightly considered State policy. There has been too much discussion of State rights and Federal rights, and there has been too little discussion of State functions and Federal functions—too little consideration as to which can really and most effectively do a particular thing in the interests of the public, including the local public.

We find that arbitrary State lines disappear in a great many things. There is nothing clearer than that the lines that run in the West between States—whatever may be the historical facts in this connection in eastern States—were run at points to suit local administrative convenience. There is no particular reason why the State line between North and South Dakota should not have been 50 miles north or 50 miles south, except, possibly, at certain points where the physical conformation of the country, geological considerations, put it at one place rather than at another. But in these modern days of intercommunication those physical difficulties are largely disappearing; the things which led you to put a State line at a particular point in the past are rapidly disappearing, and the real consideration now is the function of administration—what makes a convenient unit of administration; State lines would now be located

so that the population and the territory within them could be most effectively administered for the benefit of the locality and the population. And having found that modern development of intercommunication has produced this result we ought to try and stop it; it is a process of evolution that we can not stop. That is particularly true in water-power development, because water-power development is only a part of waterway development; as we study this question we find it almost impossible to consider the use of water for water power separate from the use of water for other purposes.

The officers of the Department of the Interior and of the Forest Service of the Department of Agriculture will tell you, I think, that they are constantly called upon to consider the conflicting interests, for instance, of irrigation and water-power development, just exactly as the War Department is constantly called upon to consider the conflict and the adjustment of differences between the use of water for navigation and the use of it for water power and for municipal purposes and domestic uses. It is all one question, becoming more and more one question every day. There are many streams that rise in one State and pass from that State into another, or into a series of State, and those streams may or may not be navigable in any one of those States. If they are navigable streams, of course they raise certain questions, yet the decision of the Supreme Court of the United States in the Chandler-Dunbar case has come pretty near disposing of the question of navigable and nonnavigable streams, so far as Federal control is concerned.

I have participated in discussions before committees and commissions where it was practically conceded by the gentlemen engaged in the discussions that certain results ought to be brought about; they all agreed upon what the results ought to be, and generally agreed regarding the theoretical means that should be used to produce those results; but the real question that was under discussion was whether, for instance, the Federal Government had a constitutional, technical, legal power to accomplish those results in a particular manner, and the discussion was one in which the constitutional lawyer seemed to predominate. I look back with some personal gratification to the time when it was regarded as a rather bold prophecy when I insisted that when the Supreme Court of the United States really got at the question they would wipe those difficulties off the map as if they had never existed, and no member of this committee can read the decision in the Chandler-Dunbar case without coming to the conclusion that there had been a vast waste of paper covered with printers' ink in the discussion of this question. Reams and reams of paper covering Congressional discussions, in committees of Congress, and in the Senate and House, have been filled with this question as to whether or not the Federal Government has any power over navigable streams except to say a particular structure would or would not interfere with navigation. The Supreme Court said it had nothing to do with the case at all. The Congress of the United States is given complete power, not only—as Senator Root said in the debate in the Senate—to protect navigation, but also to control navigation; but, way above and beyond all that, to promote and even to create navigation.

It is possible now, it seems to me, to adopt a policy with regard to waterway development—not only water power development—a com-

prehensive policy, without drawing these nice distinctions between streams that are navigable and those that are not navigable, or between the portions of a stream that are navigable and the portions that are not navigable. We can really take up the question and consider it as it ought to be considered, treating each stream as a unit from source to mouth, whether part is on the Federal domain, or it runs between banks where the title on either side is held or controlled by private owners. This question should be taken up and considered from the standpoint as to what is the best thing to do for the public interests, including the particular individual whose property is more immediately concerned. I think that is the way such questions should be settled. The Federal Government is the only power that can settle it and settle it right, and the settlement should include proper recognition of local or State interests. The Federal Government is the only agency that can do it, for States, like human individuals, are selfish, and each State is prone to fasten its attention on its own particular interests.

Now, during my incumbency of the office of Secretary of the Interior we had an unfortunate controversy in connection with the State from which Mr. Taylor comes, over the upper reaches of the great streams that flow to the south—the Colorado and the Rio Grande. The whole question was this: Whether or not the great irrigation project which had been started by the Federal Government at the Elephant Butte Dam had any prior rights to the waters necessary to fill the dam and to enable the territory subservient to it to be properly irrigated and cultivated, or whether the water could be diverted in the State of Colorado before it ever got down there, so that a large portion of the water would not get to the reservoir. Now, that was a pretty big question. It is a question that can be discussed from a technical, legal point of view as to the rights of the Federal Government and State government; it is a question that can be discussed from a scientific point of view, as to whether or not the use of the water in the Colorado River would or would not substantially affect the reservoir and irrigation project down below. But it has seemed to me that it is really a question as to what is the right thing to do from the public point of view, and what is the fair way to develop it so as to get the largest results to the largest number of people, bearing in mind all the while the legitimate interests of the locality. I attempted to get the officials of the State of Colorado to have an unofficial commission take up, in the first instance, the question of fact, and determine whether or not the divergence of the waters would or would not unjustly affect the reservoir; whether or not it would so diminish the supply of water as to seriously affect that reservoir, and I hoped they would find there was no conflict.

But the disposition of the State authorities at that time was to insist on their technical, legal rights; they thought they had a very strong case, and they did not think it ought to be left to any adjustment by the Federal Government or anybody else; they simply wanted to stand on their legal rights. They got the case into the courts, and the decision of the lower court was against them, and the decision of the court of appeals was adverse to them, and of course that put the boot on the other leg. Now, it is decided that the Federal Government has complete control over the matter and

the Secretary of the Interior can exercise his discretion, and it seems to me that discretion should be exercised with due regard to both interests, and it ought not to be a technical question alone or a technical question of law; and so with regard to all these matters. I think that we are all agreed—those of us who are trying to conserve the public interests—as to what ought to be done, and that is very simply stated. It is to promote development to the fullest extent possible, to encourage it to the fullest extent possible in the public interests, but not to promote it one inch beyond the point where the public interests are adequately and effectively protected. Then every legitimate local interest should be recognized to promote the largest measure of usefulness, and the power of the Federal Government should be used to make that effective.

Now, I think that no proper control or regulation of water power in this country can be had on the public domain unless the Federal Government is there to supplement the State government, and to use its power, so far as it can, to see that regulation in the public interest is made effective and constant for the benefit of the local community. In the Department of the Interior, a year or more ago, in order to test this case out we got up a series of regulations covering water power. You know that the old act of February 15, 1901, provided that the Secretary of the Interior was authorized, under general regulations to be fixed by him, to permit the use or rights of ways through the public land, forests, and other reservations of the United States. That is the substance of that act, in fact it is practically the entire act except that there is the arbitrary provision at the end, "*And provided further*, That any permission given by the Secretary of the Interior under the provisions of this act may be revoked by him or his successor, in his discretion, and shall not be held to confer any right or easement or interest in, to, or over any public land, reservation, or park."

That act was clearly defective in two respects: First, so far as the Secretary of the Interior is concerned, it is confined to the issuance of permits by him under general regulations. The regulations would have to be general and therefore perfectly uniform; they can not take into consideration the fundamental differences existing very frequently under different circumstances, and he is not given by the act the right to impose such terms and conditions as he may deem in the public interest. Various other acts of Congress which confer powers upon him expressly provide that there shall be terms and conditions imposed by him under those acts. But the act referred to does not contain that language, and the result is that the question is constantly coming up, whether or not the Secretary could impose any such terms and conditions in a permit granted by him except in the way of general regulations which he would prescribe to put the law into effect. And the lawyers have struggled over that for a long while. It was on account of that language in part that I declined to act in the Hetch Hetchy case, as you know; and I think it was considered by this committee, and you did put in the bill that was finally passed quite a number of terms and conditions that you thought were proper to protect the interests of the public, and to protect the interests of the city of San Francisco.

Now, that is the difficulty that we face from the point of view of the administrative officer. The difficulty from the point of view

of the developer is that this provision of the act with reference to revoking permits will be found very objectionable. You had an illustration of this in the Hetch Hetchy case where the original grant was made by Secretary Garfield, and followed up by an order from Secretary Ballinger, requiring the city to show cause why a certain part should not be modified later on, showing what kind of action could be taken under that provision for revocation. Now, the revocable feature in a permit not only works to the disadvantage of the promotor and developer and investor, but it will also work to the disadvantage of the public. It is perfectly clear that the public ought not and can not, if the permit is revocale, exact such terms and conditions as it otherwise could and should from a man. In many cases we may have a theoretical right to do a thing we do not exercise. If this provision is in the bill you can not expect the permittee, under those circumstances, to make the same sort of a contract with you that he otherwise would. In my opinion it will work out far worse for the public than it will for the water-power man, because the water-power man knows that, as a matter of fact, his permit is not likely to be revoked.

What has happened over and over again is this, and they will all tell you that it happens if they talk to you as frankly as they have talked to me. When they come to the department they are determined to drive as good a bargain as they can on the theory that it may be revoked; they will point out all the disadvantages of that revocable feature, they will tell you that their financial backers will insist on a large discount because of the theoretical possibility that the permit may be revoked and will say that he always asks for higher rates of interest for the use of his money under those circumstances. I remember the representatives of the Great Falls Power Co., of Montana, told me that it made a difference of several million dollars in a single transaction. Well, after all that is done, the banker in selling the bonds will tell the purchaser that while there is that theoretical right in the Government to revoke the permit there is no danger of its ever being exercised. He knows that no Secretary of the Interior would exercise that power arbitrarily, and this results merely in foisting on the public a heavier carrying charge than would be fixed if that revocable provision were not in the permit. So far as we know there has never been an attempt to exercise that power of revocation. That Hetch Hetchy case is the only one that I know of.

So this thing just stands as an obstacle to the development of the water-power sites and is not only a burden upon the consumer and the public, but the investor as well, and the sooner you gentlemen get rid of that provision the better.

In the two reports I made while serving as Secretary of the Interior I urged as strongly as I knew how the desirability of repealing that provision, but, of course, in repealing it it is necessary that you place something else in its place that will protect the public interest. The act was passed, as I understand it, at the time when there was considerable discussion as to what kind of statute ought to be passed with reference to the water-power question, and it was proposed to take up the question of the terms and conditions that could be imposed; whether there should be compensation paid by the public, and if so, in what way and on what basis, also what ought to be the

length of the grant, and should the public have the right to take it over upon its termination? I recall that the water-power interests at the time preferred not to discuss those questions. They did not like to raise them. In fact they said, Put in a provisions with reference to repeal and we are willing to take it that way. The representatives on the other side were willing to acquiesce in that arrangement. And if that provision is repealed you will have to put in place of it some adequate provision to protect the public interest so that if the grantee did not do the right thing you could revoke the lease. The time has gone by for any such makeshift legislation as the old law. In order to bring the matter to a head the Department of the Interior adopted general regulations and printed them, which attempted to cover this question, and throw into concrete, definite shape the idea the department had at that time with regard to regulating these matters under the legislation then in force.

We sent those regulations out broadcast throughout the country, especially to all the water-power interests, and then later on we called a conference, I think it was in November, 1912. A very considerable number of the representatives of the water-power interests came and participated in the discussion. The conference lasted, I believe, for two days. There were also representatives of certain States, such as the State railway company commission and the State water commission, of California. We took up those regulations and talked over the question as to whether or not each particular regulation was right and whether or not this was the right method to use. I believe there are present in the room here to-day quite a number of gentlemen who participated in that conference, and I remember that the remarkable thing about it was that there was an unusual degree of unanimity of opinion. There were differences of opinion, of course, but it was an astonishing thing to me to what extent we were able to agree, and I always thought that the reason for that was that we were trying to put the question on the right basis, trying to find out what the regulations should be in the interests of the public.

Mr. Herbert Knox Smith, in his report as Commissioner of Corporations, dated March 14, 1912, discussed at some length a point which was discussed in my annual report as Secretary of the Interior for the previous year, that is for the year ending June 31, 1911, and I want to call attention to that just a moment. You will find it on page 12 of the annual report of the Secretary of the Interior for the fiscal year ending June 30, 1911. If you will permit me, I will read this. [Reading:]

The whole subject of water-power development and control should, in my judgment, receive the immediate consideration of Congress and constructive legislation should be adopted without further delay. The limited powers of the Federal Government restrict its interest in this subject to power sites of two kinds—those upon the public domain and those on navigable streams. Some doubts have been expressed as to the authority of Congress to control the latter effectively. I do not think that these doubts are justified. I believe the Federal Government has adequate constitutional power to control water-power development both in navigable streams and up the public domain and to exact compensation and to impose proper conditions in either case. It is also apparent that the Federal Government can act more effectively than the States in many cases, and that this will be increasingly true as long distance transmission and the yoking together of distant sources of water power not only justify but require the extension of Federal regulation over hydro-electric enterprises as agencies of interstate commerce. Many of our most important

streams are interstate and some international in character. The States themselves have called and are calling upon the Federal Government to improve and to protect these streams. When such protection and improvement develops water power or adds to the value of water power already existing there can be no sufficient reason adduced why the cost of the protection and the improvement should not be repaid in whole or in part out of the values thus created, nor can there be any adequate reason why the Federal Government should pay the cost of this improvement merely to turn over the revenues to the States to be used for other purposes than water development. Both on navigable streams and on the public domain the Federal Government will be more and more called upon to make expenditures for the protection of the water sheds and of the streams themselves. This expense should not be borne wholly by the general taxpayers if the expenditure produces special local benefits of the kind described. On the other hand, the development of water power, especially where it is sold in the form of electrical energy for lighting, heating, traction, and general power purposes, gives to the community where it is consumed a very necessary and important interest in the prices at which the electric energy is sold and in the character of the service. The regulation of both prices and service should, as a general rule, be committed to the State and to its agencies delegated for that purpose. The locality in which the water power is developed also has, on its part, a legitimate interest in the application of any rental which may be exacted for such development.

Let me say that this question of the extent to which the Federal Government is called upon to make expenditures for the development of water-power resources is an important one. We are finding more and more that our forest reserves have an important influence on the protection of the watersheds and the headwaters of the streams, and Congress has authorized the expenditure of millions of money for that purpose solely, and the researches of the Geological Survey made two years ago seem to me to conclusively demonstrate for the first time on a scientific basis that the protection of the forests on the watershed has an influence on the flow of the streams.

(Continuing reading:)

It is frequently said that power-site rentals must, in the last analysis, increase the price of power paid by consumers, and thus be drawn from the local community. Two reasons why it is not true, even of a public utility, are suggested. In the first place there are frequently two localities—the producing and the consuming one—which are not identical. Electricity generated at a point in the national forests of the Sierras might be consumed either in San Francisco or Los Angeles. The rentals now paid for this development by the hydroelectric companies go in part to the support of schools and roads in the counties where the forests lie and in part to the Federal Treasury as a partial offset to the expense of maintaining the national forests. It is substantially true to say that the water-power revenue is expended in the mountains where the power is developed. Should this benefit be taken entirely from the mountain communities and bestowed upon the cities in the form of cheaper electric power? This conflict between the interest of the producing and consuming communities is destined to increase as better knowledge and improved apparatus give a longer and longer radius of high-tension electric transmission.

Power plants on either side of the Sierras now hook up and utilize the full efficiency of their resources and greatly increase the stability of the plants established, due to the fact that the conditions on the two sides of the mountains may be radically different—water may be scarce on one side and plentiful on the other. In this way it can all be used on one side for one purpose and on the other side for another purpose.

The best illustration to use to emphasize the fact that great improvement has been made in the matter of long-distance transmission is found in the electrification of the Milwaukee & St. Paul Railroad, their main line through Montana. There are several hundred miles under actual process of electrification. We know that for a

long time this matter has been talked about as something that would likely come to pass a long distance in the future, but it has come much more rapidly than most of us have anticipated. Under these same conditions and circumstances it is an important question as to what you are going to do—as to whether you are going to take power generated in one State and take it over into another State and use it, and trust to regulating agencies of one State or another; or whether you are going to exact compensation from the people of one State and use it for the benefit of the people of another State. The Federal agency is the only agency that can decide that question. We have talked about two States harmoniously carrying on something of this kind, but we have not a single illustration of which I have any knowledge.

I have in mind an illustration of the Federal Government and a State government getting together. That has been done in Oregon, where one of the last things I had the pleasure of participating in as Secretary of the Interior was the making of an agreement under which there is being carried on a very extensive investigation with a view to utilizing the full water resources of the Deschutes River and Valley for the purposes of irrigation and otherwise. The Federal Government and the State government are joining in the expenditure for this investigation, and the benefit will be mutually for the public and private lands involved. There was no difficulty about getting together on that subject. As soon as the people out there developed the disposition to agree about this matter there was no hitch in the proceedings anywhere, and we had no difficulty at all. In that case the Federal Government only wished to develop the public lands in that particular locality, and the development was of more interest to the State of Oregon than it was to anyone else. To secure such development is a matter of far greater concern to the State than any question of money or revenue that can be exacted by the Federal Government. You have to choose the kind of development you wish to get, and that is the trouble with some of our Western States. They are not quite willing to face that question. In the matter of development of water power, as with coal lands, you have to decide on what your policy is to be—whether you want to create conditions under which comparatively few men can go in and make a lot of profit, or do you want to create conditions where those things can be developed at a reasonable profit and for the greatest benefit of the community as a whole, cheapening the cost of power and improving their condition in other respects?

This is really a matter which you can not determine by dollars and cents. That may be true in the mining of coal, but it is not true with respect to the development of water power, which has an effect on the whole community and results in commercial and manufacturing and industrial development—everything that depends on cheaper power. These are the things you have to choose between, and you can not work both of them. You can not exploit these resources for the general welfare and give the profit to a few men; you must control them in the public interest and secure the production of cheaper power for the benefit of the community as a whole; that is the choice you have to make, and I believe that the public control of hydroelectric power will do this better than anything else.

Some European communities have developed that situation to the highest extent, so that they can take electric power and carry it with a single wire into communities where modern machinery makes articles of great value to go into the markets of the world and compete there successfully. Now the extent to which cheaper hydroelectric power can be utilized in that way is only faintly appreciated, in my judgment, and the wisest thing which the Federal Government can do is to foster a policy that will never fail to have that end in mind. Make it possible for any man with a small capital to set up an establishment and get his power for making the articles he intends to manufacture. The necessity for a large investment now stands as a handicap to the small manufacturer and works to the big man's advantage. The small man can not buy large quantities of machinery, and he can not build the big power plant for making articles of commercial use. The large factory is merely a duplication of machines; each one is a unit, and it is possible for a single man to carry on a business with one or two machines at comparatively small expense and yet make a reasonable profit if he is able to secure cheap power. If this Government will take the necessary steps to develop our sources of power in order to bring these benefits to the communities where it is available, giving the right encouragement to the financial interests, and at the same time providing for the proper Government control, we will begin to make real progress.

Now, I say here [reading]:

But even if the interests of the producing and consuming communities were identical, a reduction or abolition of water-power rentals could not, as a general rule, result in lower prices for electric energy. This is due to the fact that electricity is generated not only by water power, but also, and still more extensively, by steam power. There are very few communities where water power is, even approximately, the sole generating agent.

Let us suppose that you had a local public utility, say in Denver, or Portland, Oreg., and it was under effective State or municipal control, could you say what the price would be for energy developed by water power and that there would be another price per horsepower for energy developed by steam? The probabilities are that such a regulation would be legally objectionable, but let us suppose that we got by the legal point by some means or other so as to put that power in the regulating agency, how could it exercise it? How could it or anybody decide what the price of power should be if developed by steam or if developed by water power? Favoritism would be inevitable. You could not say to one man that he should have hydroelectric power at so much per horsepower and to another man that he should have power generated by steam at another price per horsepower. I do not think that you could fairly work it out where steam and hydroelectric power were both generated at once unless they were owned absolutely together so as to be an absolute monopoly and adequately supply the entire demand, and you would probably find no place where that would be true. So that the difficulty of protecting the public by regulating the prices of service of hydroelectric energy are very great.

(Continuing reading):

The public can not, as a practical matter, fix one price in the same locality for the same commodity generated by steam. To do this where hydroelectric energy can not supply the whole demand would give a great and unjust ad-

vantage to an arbitrarily chosen and favored class of consumers. Now, steam is generally the more costly producing agent and therefore the price of electricity generated by water power is, in any locality, normally fixed by and but little lower than the price of electricity generated by steam power. Public regulation may reduce these two prices together, but the minimum limit of such reduction must be that price at which a well-equipped and well-managed steam plant could earn a proper return. This minimum limit is generally well above a fair return on the actual cost of water-power development. The difference goes to the hydroelectric corporation, unless retained for the public by rentals or taxes paid into the Public Treasury and expended for public purposes.

I am aware of the fact that there is a general tendency toward the development of steam-generating machinery and apparatus, probably more so than toward the development of water-power machinery. One of the most remarkable facts in connection with the electric development is the fact that we apparently have increased our ability, by inventive processes and otherwise, to develop electricity by steam far more rapidly than by water power. But that is only an incident, as I see it, in the general situation. It is going to disappear whatever may be the present conditions, as fuel—whether it is coal or what not—becomes more expensive, and I think it is inevitable that public attention is going to be drawn and attracted toward hydroelectric development. It is the necessity of the case that leads to development. We would not have developed the gasoline engine to its high state of efficiency if it had not been for the automobile, and if it had not been for the automobile we would not have had any aeroplanes, for they would not have had any engines. I have the utmost faith in development of that kind and believe that the importance of the economic necessities of the case will fully justify and encourage the use of this resource. It doesn't destroy itself in the using, and I believe that it is along this line that we will find the greatest development in the future.

But I have taken up too much time in a general discussion of these matters. I would like now to refer briefly to certain features of this bill.

Let me say first on the State and Federal question, one reason why I have been in favor of having the Federal Government obtain control, is because it will make these large expenditures for the protection of the stream and for the protection of our watersheds. You can not expect the States to increase their expenditures in that regard, but they will rather diminish. In addition to that the Federal Government will be the effective regulating agency. We found this to be true in the case of the Carey Act. We found that the States were not equipped with the proper machinery and officials to look after the Carey Act, that is the underlying feature of the failure of all the Carey Act projects. The States could not afford to pay the salaries, and they had nothing to offer in the way of the probable reputation to be secured equal to what the Federal service offers. The States really could not afford it, and there is some justification in the claim that they were unable to create the necessary State machinery for carrying out the provisions of that act. I think the Federal agency, with the machinery it has available, is apt always to be more effective because of these facts; besides that, the Federal Government has the whole country to deal with. The Federal Government will be able to pay the proper men for carrying on this work, and it always af-

fords an opportunity for interesting the man of ambition who is willing to undertake the work and take less than he would get in some private employment.

Another matter I wish to refer to is the increasing development of long-distance transmission which bears an important relation to the possibilities of connecting up separate streams and yoking up different localities, which further makes it essential that the Federal Government should retain its general control of the situation. It should retain this, not in conflict with the State at all, there is no necessity for conflict unless you persist in putting in some provision here which will cause it. You will have destroyed one of the principal grounds of conflict when you make it plain that the local community is to get all the benefit without any expense, and if you do the other thing—provide for only such regulation of local service as the State commission or other agency is to have the primary responsibility for, and that the Federal Government is only to come in as a secondary matter—you will have granted everything which the local community can have any interest in. It is only possible for three things to arise of any real interest to the community. The first question is the service, that is primary and more important than anything else; the second is a reasonable rate of charge for that service; and the third is a statement of what you are going to do with the money. If you are going to spend it locally that objection is gone; there can be no conflict on that point.

There is only one thing else that can be claimed and that is that the State officials, per se, the State legislature, the State governor, the State officials generally, want to run it themselves. If the things are done that I mentioned, that could be really the only difficulty. If you will burrow down underneath the objections likely to be raised you will find that the real secret of the whole trouble is the fact of the desire of the people of the State to get control of these things for reasons that are not in the public interest. In the great majority of cases the desire of the people interested in these matters is that it be subject to State control, because they believe that they can promote these things to a much better advantage; that they can get better terms than they could from the Federal Government. They stand more chance of monopolizing the machinery of the State government to their own advantage than they would with the Federal Government. But you would find, in the case of the most intelligent men at least, that the people proposing to develop a water power of any great magnitude would prefer to have Federal regulation than State regulation, because of these restrictive measures that might be placed upon them. They would prefer it for that reason, and they will tell you if they talk to you as frankly as they have to me, that it would be better for them, because they would be less liable to unreasonable exactions that would be made upon them. They feel that Federal regulation is more apt to view the situation in its broader aspect. The Federal Government would be able to appreciate what was going on in Massachusetts, Colorado, Montana, or elsewhere, and will be looking at the development of the art in the broadest possible way. Assuming the same degree of intelligence, it is likely that the Federal agency will be able to appreciate and take into account all these things much better than the State agency would be able to do.

But you will find, as I noticed in this conference we had in the office of the Secretary of the Interior in November, 1912, that it is a singular thing that the most logical plea from the standpoint of State control, the most eloquent plea will be made by the representatives of the very considerable water-power interests. I recall very well how one of the representatives of those interests who was present at the conference waxed most eloquent over it, whereas the official representatives of the State of California, in which the gentleman's development was made, stated that they could see no conflict whatever between the State and Federal authorities, and could not see that a single regulation had been imposed which they were not willing to accede to. That is the way you will find the different representatives look at the proposition. The gentleman who represented the investor who probably lived in New York, who was after the development of a water-power site in California through a California corporation, grew very eloquent over the terrible injustice of requiring the people of California to share with the Federal Government the control of these water-power resources.

Mr. WELLS. Mr. Chairman, they were incorporated in Wyoming.

Mr. FISHER. Then he was all the better qualified to represent the local point of view most fairly—speaking for a Wyoming corporation doing business in California and owned in New York.

I have here the stenographic transcript of that conference which I have referred to. I regret to say that in a fit of economy our then esteemed chief clerk instead of calling in some regular reporters drafted some stenographers from the different bureaus who were not accustomed to taking proceedings of that kind; in consequence when we got to talking pretty rapidly and the cross-fire became hot, this report is a fearful and wonderful thing. I remember that it was in process of revision, but at the time I left the department it had not been completed. I asked Mr. Eshelman, who was the chairman of the California State Railroad Commission, whether the theory of Federal and State cooperation, outlined in these regulations, and more particularly in the explanation which we had tried to give of them, seemed to be, generally speaking, the only proper way of solving the question, and particularly of coordinating State and Federal officials, to which Mr. Eshelman replied:

> I would have no hesitancy in answering that in the affirmative, that I do not think these charges should be fixed by the Federal Government in an amount which would amount to practically rate fixing. The commission suggested that those heavy charges would exist coordinately with reference to the generation of power for private properties, and that it would form a heavy charge upon public utilities. That being the case, I would say that I agree absolutely that there should be not only coordination of the work, but where there is any doubt or there will be an overlapping of jurisdiction or any authority in any regard, I think that it should be taken care of by both the Federal and the State Governments.

Then I asked Mr. Eshelman what he thought of the matter I read from my annual report, which I have read to you here, and he replied: "As to the general scope of that I heartily agree."

Now, I turn to this bill. I think that the bill furnishes an admirable basis for discussion before your committee, and though it will doubtless be amended as the result of your deliberations, I believe that in every substantial way it will mean a step forward.

I might say that these regulations, as you know, prepared after this conference, were amended, and then we took up several questions, pending matters, and one in particular was an application by the Great Falls Power Co. of Montana. These regulations were put into effect with respect to that company, and they are now operating under a permit and developing the power which is furnished for the Milwaukee & St. Paul main line. Those regulations were embodied in their permit, and they were perfectly acceptable to that company. The president of that company has stated that he found when dealing with the department that they did not ask anything in which he did not believe they were perfectly justified.

It is, perhaps, violating no confidence if I say to you that after the final discussion one particular man, who was an attorney for a promoter who had been trying to get certain of these regulations modified, came to me and wanted to know if he had gone just as far as he could, and I told him yes; and then he asked if there was nothing else that he could say with the idea of having the regulations amended, and I said absolutely no; and then he said that he had done everything he could for his client, but he felt that all along I had been perfectly right. That is the way you will find a great many of these people. If you let them thoroughly understand that you have only the public interest in view and that you are merely going to protect those interests, and that at the same time you are dealing just as fairly with them as you can, then you will have little difficulty in arriving at terms satisfactory to everyone.

But I would like to say that personally I believe the dice ought to be loaded a little bit in their favor. The development of any public utility, water power or otherwise, is going to be a big proposition, and anybody who is going to put his time and money and energy into developing a utility of this kind should have every possible encouragement from the Government. I believe you should constantly hold out every inducement to capital and energy and brains and enterprise to proceed with this development, for the public is much more concerned with securing better and cheaper service in this respect than they are with almost anything else, particularly in the localities most affected. You should be most liberal with them, because you want to create a desire on their part to carry on this development. At the same time you should remember you are handling the public resources, and if you give anything more than is necessary to encourage ligitimate development, that would not be right.

Mr. Ryan, who is president of the Great Falls Power Co., and who made that statement to me I referred to, is also president of the Amalgamated Copper Co., and we may assume that he did not go into an arrangement of this kind from any sense of compulsion. There is no reason for assuming that these gentlemen thought otherwise than that we had treated them most liberally. They were thoroughly satisfied and said so.

To get back to the bill. I notice the first section reads that the Secretary of the Interior be, and hereby is, authorized and empowered, under general regulations to be fixed by him, to lease any part of the lands and other property of the United States, including Alaska. There, I think, you ought to go a little further than that

and make it something like this: "Under such terms and conditions as he may prescribe not inconsistent with the provisions of this bill," so as to get rid of the inflexibility of general regulations.

Under this bill the Secretary would be met by something of the same difficulty we have now under the present law, namely, that he can not deal with any of these cases except under general regulations, and you will come to the point where you want to meet a particular situation; you can not do it without modifying your regulations and you may not want to modify them with regard to other situations, and I think there ought to be some flexibility. If you give the Secertary power to modify the terms and conditions not inconsistent with the terms of the bill, it seems to me it would be a wise thing; and I say that because I apprehend that is really what is intended in the bill.

For instance, take section 12, on the last page, which says:

> That any such lease may be forfeited and canceled by appropriate proceedings only in a court of competent jurisdiction whenever the lessee, after reasonable notice, as prescribed in the lease, shall fail to comply with the terms of this act or with such conditions not inconsistent herewith as may be specifically recited in the lease.

It evidently contemplates conditions not inconsistent, and I would not leave that matter to a question of the probable construction of some law officer, but would cover it specifically, it seems to me. That is really the most important thing, as I see it.

The next thing is this question of rentals. That is in section 8, page 5. It reads:

> That for the occupancy and use of lands and other property of the United States permitted under this act the Secretary of the Interior is authorized to fix in the lease and collect charges or rentals for all power developed.

That language might necessitate or might be held, departmentally to necessitate, providing for the rental at a fixed sum, because of the use in there of the word "fixed" without other language. That might be held to be inconsistent with the theory of a periodical readjustment of rentals.

Now, my own notion of it is it ought to start with very nominal charges, that the charge ought to be small at the start, and it ought to be purposely small so as to encourage development and to give time to build the plant and get into operation. The charge can be put on a nominal basis and then periodically, say periods of 10 years, that matter ought to be readjusted. That is the provision of the Montana lease, and that is the provision in some of the other leases. There ought to be appropriate language to protect the investor and there ought to be a sort of periodical readjustment, and I think that is in the interest of the investor as well as in the interest of the public.

If the Secretary has to fix the rental for a long term, of course, as he naturally could, he would say: Well, now, I have to fix it for 50 years. I have got to put it up high enough so that it will be substantial. And then a power developer does not know how it is going to work out. It depends on the market, it depends on the competition, and a great many other things; and I think both the public and the private interests will be much better protected by periodical readjustments.

That language ought to be modified in some way so as to permit that. It may be you want the Secretary to follow that course, and it ought to be within his power, in his discretion, to do it. It may be you want to leave it sufficiently flexible so that if, for instance, and the power people want to make the readjustment period 20 years instead of 10, and you are convinced that is right, the longer period could be specified. Or, as has been suggested, the first rental might run for a long period, say 20 years, and then might be adjustable by decades after that. There are various ways of meeting those things and I think there ought to be sufficient flexibility in the administrative officer's discretion to cover it.

I have not had time to frame any language to govern that, but it seems to me that ought to be done.

I am taking these questions up roughly, in the order of their importance, as they impress me.

And then there is the question of what is going to happen at the end of the 50 years. This bill is an absolute grant for 50 years, and then an indefinite and continuing grant perpetually after that; there is no time limit on it at all.

That is going pretty far. It is going further at this time than most of the power people have asked. There have been provisions suggested that if a lease is not renewed at the end of the 50 years, then the lessee ought to be paid a reasonable price for the value of his property if it is taken over by the Government, or if the Government authorizes somebody else take it over. This bill does not go on that theory, and I think that is a question which should be given very careful consideration. Fifty years—the ordinary argument is that the grant ought to be long enough to finance the bonds. Well, you may put it down as a safe proposition that no bonds running over 50 years will ever be issued on a power plant. As a matter of fact, they are usually much less than that; the bondholder does not want to have the bonds running for 50 years. They want to take in anything from 20 years and up, many of them for 30 years.

You have taken care of that matter if you provide for the payment on appraisal of the property or payment of a fair value if the lease is not renewed. I do not know but what you have covered that now better than this way. You have had some work in this committee on the coal-leasing bill, and have had some suggestions on that matter, and I think in line with this.

The CHAIRMAN. This is a longer period.

Mr. FISHER. I think there ought to be some revision in that period.

The CHAIRMAN. They will run for an indeterminate period with power to increase the rates of interest.

Mr. FISHER. If that is done, there ought to be power to take over at the end of 50 years; and if that power is given to take over in separate items, there ought not to be any difficulty about it. When we passed the street railway ordinance in the city of Chicago we gave the city the technical right to take over the street railways on six months' notice if they did not disturb the capital invested, and for the first time in the history of the property their bonds sold at 104, when they used to sell for any old thing. And if you put the proper provisions in, you can put any provision in that will protect the public in taking over these properties.

Now, there is another thing, which was discussed in connection with some of the coal-leasing bills. It is much better to have a provision that a lease shall run for a certain period of time, and then may be renewed in accordance with the general laws then in force, than to have it run for that time and then indeterminately after that, because that raises the question of vested rights. You have, in that connection the Dartmouth College case.

Suppose at the end of 50 years it becomes perfectly clear the law ought to be modified in certain respects, and it is perfectly fair and just that it should be; the grant could be amended or modified, if you have provided that it could be renewed thereafter under the general laws then in force; but with a term running 50 years and inedfinitely thereafter if you see you have made a mistake in the terms of the grant in the public interest the lessee will take you into the Supreme Court and claim he has a vested interest, and it will be decided in his favor. If it is an absolute right for 50 years, I do not see why it should not satisfy him.

Mr. THOMSON. There is no difficulty in a leasing bill for providing at the expiration of the lease it might be renewed on terms fixed by the Secretary, unless otherwise provided by laws then in force.

Mr. FISHER. That would cover it. I mean some provision of a general character, rather than this fixed contractual relation, under such terms and conditions as now fixed.

Mr. FINNEY. The last three lines of section 6 contemplate that, "upon such terms and conditions and for such period as may be authorized under the then existing applicable laws."

The CHAIRMAN. That is on page 5 of the bill.

Mr. FISHER. Well, that is intended to be the real term of the lease.

Mr. FINNEY. Yes.

Mr. FISHER. Is that inconsistent with the other provisions of the bill about the 50 years? That is the only question.

Mr. FINNEY. I think not. At least it was not so intended. Three things may happen at the end of 50 years. The first is for the Government to take over the plant on payment; second, to lease to a third party on behalf of the original lessee; and, finally, the lease may be renewed under such terms and conditions as may then be authorized under the law.

Mr. FISHER. The question would be this: Suppose the lessee declined to take it under the terms and conditions under the then existing laws and said it was not satisfactory to him; what will happen under the terms of this bill? Does he have a right to run on, or would the lease be terminted?

The CHAIRMAN. He only has the right to renew under the then existing terms and conditions.

Mr. FINNEY. I think he has the right to run on, under one or the other of the two conditions.

Mr. FISHER. That is just the point. Ought not that to be protected against in some appropriate way?

Mr. FINNEY. Possibly; but you would not want an interval to come in there when the plant would not be in operation by some one?

Mr. FISHER. I suppose not; unless the fact you have given him a full 50-year term is sufficient. It is not an easy thing to do, because the one thing you do not want to do is to create a situation

where you get down toward the last 5 years of the term and you have destroyed the incentive of the lessee to expend money on the upkeep of the plant. That is what happened in Great Britain. That is one of the things over there that caused a check on the leasing system. The lessees had fixed terms and no provision to take care of expenditures toward the end. The result was there was a fight between the public and the public utility concerns. The public wanted to get the service and the public utility concerns would say they could not afford to expend any money, because at such a time the lease arbitrarily ceased and they could not afford to keep up the plant. That is really what led to the great extension of public ownership of municipal utilities in Great Britain.

Mr. GRAHAM. I should think if they provided for a forfeiture of the business it would reach that.

Mr. FISHER. Is that very reasonable? The difficulty is the reasonableness of the forfeiture provision. Is it fair to say that to a man, during the last 2 years of a lease, where the plant is old, the machinery is worn out, and it may not pay to put in new machinery unless you have in some way fairly protected him on his investment. The public interest is the same as the private interest to a very large extent. The public never makes anything by dealing with private promoters and investors unfairly. Cows will come home always. You can not get away from that, and you should not try to.

Now, there is a provision here requiring the companies to make financial reports; that is the publicity provision. But there is no provision other than departmental regulations for a right to inspect the books and papers. I think that ought to be in there. There has been no objection on the part of the larger enterprises that we have had to deal with on that score, and I think it is a wise provision.

The CHAIRMAN. This is section 11, page 7, of the bill?

Mr. FISHER. Yes.

Mr. THOMSON. It does not give the power to examine the books.

Mr. FISHER. You ought to check it up by the Government agency sending men in there. Probably before a very long period of time has elapsed that power will be conferred on some Government agency with regard to all corporations doing an interstate commerce business; but you ought not to depend on that—you ought to have that provision in the contract.

Mr. TAYLOR of Colorado. Could you not put it in the lease?

Mr. FISHER. Yes, you could; but it is a question of policy. The only difficulty is, if you have a simple bill which contains the terms and conditions, and then put all these things in, the minute you begin to enumerate things the courts may apply the rule that the expression of one thing means the exclusion of others, and that when the bill says you may ask for a return but did not say you could ask to see the books, it was implied in the action of Congress that it intended to exclude the right to look at the books. That is one thing that has to be checked up all through this bill, and it ought to be scrutinized with that point in view—that is, by expressing things now you may not limit public authorities to those things hereafter on that subject. Say that among other things the

Secretary or whoever it is shall have power to do so, shall have the right so that on the face of the bill you will negative the theory that the things which are enacted are to be exclusive.

I notice that the Federal Government is given the power to regulate the prices to the consumers and to regulate the service. That is section 3—

that in case of the development, generation, transmission, and use of power or energy under such a lease in a Territory, or in two or more States, the regulation and control of charges for service to consumers is hereby conferred upon the Secretary of the Interior or committed to such body as may be later provided by general statute.

It seems to me that ought to include the service as well as charges. That is, assuming now it is interstate business, which is what this act is confined to, it ought to include service as well as charges.

You have excepted the national parks and you have a general repealing clause. I do not know what the intention of the drafter of the bill was as to whether the national parks were still under the terms of the general act of 1901 or not, or whether he intended to repeal that act by inference or otherwise. That is a question which ought to be considered.

The CHAIRMAN. The thought was there was a hue and cry against the turning over of even a stone in the national parks.

Mr. FISHER. I understand you do not want to extend it. I think that is wise. If there is going to be any extension to the national parks, if you are just going to separately consider them, I think that is a wise provision.

Mr. THOMSON. What do you think about national monuments?

Mr. FISHER. I really do not think there ought to be any distinction, except this, that we are going to see an increased tendency to create those monuments, because there are a lot of things set aside as national monuments that it is well to have preserved.

The CHAIRMAN. They do not rise to the dignity of national parks?

Mr. FISHER. Except in one instance, the Grand Canyon.

The CHAIRMAN. And that ought to be made a park?

Mr. FISHER. As you gentlemen may perhaps know, there were a number of very valuable mining claims located on the Bright Angel Trail, in the Grand Canyon, which have been the cause of considerable trouble in the department.

Mr. TAYLOR. Why was it not made a park?

Mr. FISHER. There have been bills introduced for that purpose, and I recommended it. I suppose it is just because of the fact nobody has taken it up and pushed it. If your committee took it up I presume it would be a very wise thing, if that is within the province of your committee.

Mr. TAYLOR. Why has not the recent Delegate pushed it?

Mr. FISHER. It may be due to the fact that the Delegate from Arizona was interested in some of those claims on the Bright Angel Trail.

Mr. HAYDEN. I may say the present Congressman from Arizona has no such interest. [Laughter.]

Mr. FISHER. I was not referring to the present Representative. As far as I know, no person now representing Arizona has any interest in those claims.

Mr. GRAHAM. I think I may be looking for the Angel Trail, but it will be to go up, however, instead of down. [Laughter.]

Mr. FISHER. The question I am raising is not as to whether you ought to confine power grants in national parks or monuments to a separate act, but whether or not the passage of this act works a repeal of the act of 1901, or still leaves it in effect.

The CHAIRMAN. It has not much force anyway.

Mr. FISHER. It is the only one under which we are granting any permits.

The CHAIRMAN. As a general proposition, Mr. Fisher, if a case rises to importance, where it becomes necessary to construct something in a national park, it is a matter of coming to Congress with it anyway?

Mr. FISHER. We have created that precedent.

The CHAIRMAN. For instance, in the Hetch Hetchy case you will recall Secretary Garfield took a whack at it; next Secretary Ballinger; and next you; and finally somebody had to take the bit in the teeth and do something with it, which finally was done.

Mr. FISHER. Mr. Chairman, you will pardon me for suggesting it, but when that matter came before me there was nobody sufficiently interested in that hearing or my report on it to introduce it in the CONGRESSIONAL RECORD or in the hearings before your committee. The gentlemen interested in the permit were interested in quoting certain sections, and the gentlemen opposing the permit were interested in quoting certain sections, but neither party was interested at all in putting in the substance of the thing nor my report on the hearings. The questions which you devoted weeks to were gone into by the engineers in a most elaborate fashion.

Now, I say the precedent has been established for introducing a special bill and coming to Congress for power projects in the national parks, which, I presume, may be followed; but you may want to scrutinize this act to know what is its legal effect.

Mr. TAYLOR. The water provisions in the national monuments do not cut much figure?

Mr. FISHER. I suppose not, unless it be in the Grand Canyon. I do not know whether there are any others or not.

Mr. FINNEY. And the Olympic?

Mr. FISHER. That is right. I think it might be just as well to check this up. It may be that there is nothing in this suggestion of mine, but it is worth checking up.

Mr. KENT. Do you not think we could put a clause in here that no permit should be granted that would destroy the cause for which the park was created?

Mr. FISHER. You do that—

> That such leases shall be given within or through any of said national forests, military or other reservations only upon a finding by the chief officer of the department under whose supervision such forest, park, or reservation falls that the lease will not injure, destroy, or be inconsistent with the purpose for which such forest, park, or reservation was created or acquired.

I am speaking, Mr. Kent, and confining myself now rather to the technical legal question of the effect of this act on the act of 1901; that is, whether it should be repealed or whether you want to repeal it and what will be the situation if you do not and have these two acts in effect at the same time, in whole or in part.

The CHAIRMAN. You would not think it so tremendously important in the event the act did work a repeal of the 1901 act, which was the revocable-permit act?

Mr. FISHER. I think this, Mr. Chairman, that if you have to choose between wiping out the act of 1901 and putting this bill in force in the national parks and monuments, broadly, I think you had better take the former course and take them all out rather than put them all in. I think it would probably be the subject of less criticism, and there will be less danger of something happening which you do not want to happen.

The CHAIRMAN. Both you and this committee have become convinced of the inflammatory nature of doing anything in the national parks.

Mr. FISHER. I think that is right.

The CHAIRMAN. And the one has suffered as much as the other.

Mr. FISHER. I think that is right. And I hope the time has come when you are going to extend the national-park system, at least to this extent, that you will make the forest reserves to a considerable extent of the same nature as the national parks—I mean, throwing them open under the Forestry Department. Personally, I think the whole thing ought to be in the Interior Department. They are administrative; they are not scientific; and whatever reservations you have, I think those reservations ought to be used as playgrounds and camping grounds. They ought to be grounds pretty much of the same nature as national parks.

Mr. TAYLOR. All these parks ought to be in the Interior Service?

Mr. FISHER. The parks; yes.

Mr. TAYLOR. They ought not to be in the Forestry Service?

Mr. FISHER. The parks already are under the Interior Department.

Now, you have limited this bill to States in which there is a State commission, and yet you have some language in here about Territories—"That in case of the development, generation, transmission, and use of power or energy under such a lease in a Territory or in two or more States." Then the Federal statutes shall apply.

Mr. TAYLOR. What is the object of having that limited to the States that only have a commission?

Mr. FISHER. Because, Mr. Taylor, you have to regulate the power, to regulate the rates and service in the States, except where there is interstate commerce involved. In this way you want to know it is going to be done; that is all.

The CHAIRMAN. Might I add something about the way this bill was formulated? Senator Walsh, who is one of the keenest men in the country, and who, I think, anyone who is acquainted with him will at once recognize has one of the clearest brains I have come in contact with——

Mr. CANTOR. In the Senate, you mean? [Laughter.]

The CHAIRMAN. What I want to say is, he suggested that as to any State which so far had neglected to create a rate-fixing commission, or whatever you may call it, he felt the States ought, so far as suggestion on the part of Congress could effect it, to be driven to that plan before they were permitted to have the benefits of this bill.

Mr. FISHER. It would be an inducement to create State commissions.

Mr. TAYLOR. On the other hand, if they do not want to come within the provisions of this law, they might abolish the State commissions already existing.

Mr. FISHER. They might; but if the bill is properly drawn, that that is the question I am coming to, whether or not the bill ought to be drawn in such a way that the Federal authority will be compelled to cover the whole field. Where there is any State commission, then the State would not abolish the State commission; but if it did, it should come completely under the Federal authority.

Mr. THOMSON. We had that exact thing in the Hetch Hetchy bill

Mr. FISHER. I have not brought with me the Hetch Hetchy bill in the form in which it finally passed. I followed it through its stages up to the very last and then the last one I did not follow through and I am unfamiliar with the act as passed.

The restrictions on the lessees in this bill seem to be very desirable and fair, as far as I can see. I understand there might be some objection to the provision about limiting the amount of electrical energy that may be sold to one purchaser; but to those familiar with it, if you are going to have anything at all in the direction of a restraint of monoply, I suppose that is a fair provision. Personally I would be disposed to accept, frankly, the theory of regulated monopoly in matters of this kind and go right to it. I have not much faith in the effectiveness of competition in a business which in its essence is of a monopolistic character; I have a great deal of faith in it in other fields. But when you have once got an enterprise which is essentially monopolistic in character, I think the thing to do is to recognize that frankly and put it under effective regulation.

The CHAIRMAN. Might I add right there, Mr. Fisher, that the theory of that particular thought is the irrigation people, who are of necessity little fellows, small users of the power, are afraid that if you do not have some provision of that sort the power might be sold to one individual and they be excluded?

Mr. FISHER. There may be some justification for that. There was one experience, I think, down at the Roosevelt Dam, where there were some large contracts made, and, as some of you will remember, they sold the power to a public-utility concern that distributed the power in Phoenix, or some place. It was done some years ago, but I assumed always that the explanation of it was that the Reclamation Service was thinking of the thing from a fiscal point of view, of return to the project, and did not have in mind the economic problem, and I always felt a mistake had been made at that time on the economic theory of that contract.

Mr. HAYDEN. There also has been complaint about selling the power under reclamation projects, the effect of which might be an enormous damming of power for mining purposes in the vicinity of the power plant; and yet there might be another use for the development of water for irrigation. You might perhaps get a higher revenue from the sale of power to a mining company than you would for farming purposes; and the regulation providing it all can not be sold to one party, I think is proper in a bill of this kind.

Mr. FISHER. I can not see any objection to it, as long as you are giving the secretary discretion to go beyond that. I thought there might be an economic question involved in language of that kind.

Mr. STOUT. A condition might arise such as monopoly where a railroad is going to electrify and might require the power such as the Milwaukee Railroad, which is 150 miles away from a source of supply, and it might create some embarrassment to that city.

Mr. FISHER. And yet the Secretary has discretion, under the bill, and I am glad you mentioned that case. We made them submit their contracts between the power company and the railroad so that we might check it up to see whether or not through intercorporate relationship they would not juggle the thing and get a higher price from the railroad than they ought to get, that there might not be a community of interest under which the railroad company was perfectly willing to pay that because it was going into interested pockets and the public would have to carry the burden in the shape of railroad rates based on that expense to the railroad. So we made them submit their contract and then scrutinized it, and then submitted it to our own experts for advice; and then when the suggestion was made, they thought that was a fair contract to make, that there was not anything unfair or unreasonable, we put the contract right in the permit and said that one of the conditions was they should make that contract and no other with that company. So that we have created a situation where two corporations controlled by the same interests can not juggle the contract with each other and impose on the public.

Now, there may be some case in which the power permittee wants to sell more than half the power to some consumer, and if he takes that permit, and the Secretary may follow some such precedent as that and find out what the contract was, he could make the lease conditional upon authorizing it.

I do not know that I want to say anything more.

Mr. TAYLOR. Let me ask you: In reference to the Chandler-Dunbar case——

Mr. FISHER. Pardon me just a moment. Just one thing. You have made all of this money go into the reclamation fund.

The CHAIRMAN. First.

Mr. FISHER. Yes; first. Then when it comes back you have provided for half of it to go to the States. Now, personally, I do not attach any importance to that. I do not think that is a wise way to handle it, because I think the Federal Government ought to spend all the money so acquired, and it is not a matter of any concern to the State in what way it comes back to it. But, I think, there is going to be an increasing demand for money in supplying the States for water development, I mean in matters relating to the development of water; and that really ought to go, the revenues derived from water ought to go back into water development, in the way of protection rather than into schools and something else. I believe the more you pin these things right down to matters of that sort the better for us; but I am not fully sure that it is going to be practicable for the Reclamation Service to segregate it so they will know when that dollar comes back, or which dollar is it that is coming back.

Mr. TAYLOR. Some of us thought there never would be any to go back.

Mr. FISHER. Oh, it will come back. Mr. Taylor, when we made a contract in Chicago for the street railways the opposition to it was based on the theory, as they said, that "the net receipts would be nit

receipts," but that fund, I think, now amounts to $2,000,000 a year. And I think you will find this thing will work out and that public opinion will progress to such a point there will not be any controversy about those things as they work out and they see the revenue coming back, and if the Federal Government protects the same waterways with that money that is derived from them and it goes right back into the localities there will not be any trouble about it at all.

Mr. TAYLOR. I did not make myself clear. The bill now, as you know, takes 20 years

Mr. FISHER. Yes.

Mr. TAYLOR. And some of us from the West feared that the 95 per cent of the whole House, that comes from places other than the West, would ultimately cast covetous eyes on that money and just appropriate it all, and we would never get any of it before the 20-year period comes around.

Mr. FISHER. I have not seen any desire to do that. There has been a great deal of talk in the West about the so-called conservationists being unfair in some such policy as that, but yet my experience has been that they were fair.

Mr. TAYLOR. Your statement has been surprisingly fair to me this morning. [Laughter.]

Mr. FISHER. Mr. Taylor, it is a singular coincidence that before I began this statement a gentleman who is interested on the other side of water-power development told me that for the first time yesterday he read my statement before Senator Burton's committee some two years ago, and he was astonished the same way you are. The conclusion I draw from that is that you gentlemen have been making up your minds without reading what I have said. [Laughter.]

Mr. GRAHAM. They are coming around.

Mr. FISHER. I think they are coming around, Congressman.

Mr. TAYLOR. In reference to the decision in the Chandler-Dunbar case, why does not this bill apply also and more specifically, if it does at all, to the navigable streams and the immense power possibilities of these gentlemen back East? Why don't we reach out and get those and divert that money into these river and harbor developments and have Uncle Sam replenish himself some in that direction? Why do they reach after us and overlook ten times as much here at home?

Mr. FISHER. The only reason they don't, Mr. Taylor, is because the United States Senate, by a vote composed almost entirely of western Senators, in a debate in which they took the lead, refused to incorporate precisely that provision in the Connecticut River dam bill and opposed it upon the ground that it would create a precedent in dealing with the West. If you will read that debate it will be the most illuminating thing to you, in answer to your question, that you can possibly find.

That was a bill which had been worked out between the power interests directly affected and the Secretary of War, and all the terms agreed upon and all of these things we are talking about here were provided. There was compensation, and that compensation was to go right back into the Connecticut River.

Mr. TAYLOR. Let me ask this: Was not that upon the hypothesis, or at least the hope, that nothing of this kind would ever be passed?

Mr. FISHER. It may be.

Mr. TAYLOR. My recollection is they stated at that time that if the country is ever coming to the power proposition, then we want to put this very thing on them; but because they did not want to establish a precedent against us, why, they were willing to cut off all of them. But my question is, if the power is here, why enforce on us what they are not willing to put on themselves?

Mr. FISHER. They are not only willing, but anxious. The Senator from Connecticut and the Senator from New York [Mr. Root] made arguments in favor of the bill and did everything they could to get it through, and although the people from Connecticut wanted the bill, and although the Senators constantly worked for the bill, the gentlemen from the West were not willing to put it through and would not stand for it. It was not because it had anything to do with the West, but because they were afraid it would take away every argument on which they had always relied, namely, it was going to be a discrimination against the West in favor of the East. If it was ever demonstrated that the East would go further than the West along this line, what was going to happen to the argument?

Mr. LA FOLLETTE. Are not the gentlemen from the South just as strong as the gentlemen from the West against it?

Mr. FISHER. They were then. Just as it happens all along there is in the South a radical viewpoint; for example, down in Alabama. A Senator from that State was eloquently explaining that it was an outrage upon the people of his State and that no man could be found who was willing to accept the ridiculous permits suggested by the Department of the Interior, but when they wanted to develop power down on the Black Warrior River in his State, and we granted to the Senator's constituent, under the act of 1901, a permit in which they accepted every one of those things, he said he thoroughly approved of it, and I understand the difficulty now is really to get the War Department to see that their authority is adequate to sustain the Interior Department. The present Secretary of the Interior held that he had plenty of authority to make that permit. There is not any real trouble about this policy and there is plenty of sentiment in the South in favor of these things. Of course, there are a few people who are still thinking about the old argument of State rights, who do not like to be put in a position of apparent inconsistency on the record as to that time-honored doctrine; but most of those people down there have seen this is not a question of State rights, but it is a question of State finances and Federal finances and there is not any question of right in it; and the Chandler-Dunbar case left the matter exclusively to Congress and there is no question about it.

Mr. TAYLOR. What is your idea about the practicability of having the Agricultural Department, the Interior Department, and the War Department, and probably the Attorney General's Office involved?

Mr. FISHER. I understand that is taken care of in this bill and that the power is given to the Interior Department. All these other department's only certify that the particular thing will not be in conflict with anything done by them.

Take this case on the Black Warrior River. The War Department did what it would do to-day. The Secretary certified, so far as

he was concerned, that the permit was not inconsistent with anything being done in his office. He did go further, personally, in that case and said he approved of the permit; but he did not have to.

Mr. TAYLOR. Here recently we have had a right of way held up in Colorado, and we had to bring the Secretary of State and the Secretary of War, the Secretary of the Interior, Mr. Lane, and the Secretary of Agriculture, Mr. Houston—all four of them—together and had a lengthly hearing with them in order to try to get a release of the right of way.

Mr. FISHER. Was that a power privilege?

Mr. TAYLOR. Oh, yes.

Mr. FISHER. Well, I do not know why that should be; there must have been something peculiar about it.

Mr. TAYLOR. It flowed into the Colorado River and then down into Mexico and down into the Gulf of California, and there was the question of interstate and national commerce involved.

Mr. FISHER. I do not see what the difficulty was. The responsibility for that situation rests with Congress. What Congress did was this: They went into a locality which had no public land and created an irrigation project down there. I suppose that was on the Rio Grande—was on the Colorado or Rio Grande——

Mr. TAYLOR. It was on the Colorado.

Mr. FISHER. Then the only difficulty would be as to the Imperial Valley.

Mr. TAYLOR. The question there was by taking water out of the Colorado would it affect irrigation?

Mr. FISHER. That is the old treaty with Mexico. Mexico has certain interests in the theoretical navigability of the Colorado River, and I suppose on that account it was thought desirable to make no mistake. But in addition to that, that is a most serious situation, and I am going particularly to call your attention to it, because it must be treated if we ever make another treaty with Mexico, and it ought to be taken care of. Whether you take any one State or all of Mexico or none of it, at least we ought to clean up the situation in the Imperial Valley. One canal taking water from the Colorado River supplies all the water in that great valley, not only for irrigation purposes, but for ordinary domestic uses. It starts in the United States and goes into Mexico, and then it comes back into the United States. The Mexican part of it depends entirely on a corporation which was a short time ago in the hands of a receiver in the Mexican courts. That situation ought not to be allowed to continue. I suppose it was some situation of that sort which led to the calling in of the Secretary of State.

The CHAIRMAN. Why don't you call in John Lind?

Mr. TAYLOR. We have tried to call in everything we could, and we have not gotten clear listed yet, I guess. [Laughter.]

Mr. THOMSON. I would like to ask Mr. Fisher if he has any further suggestions to make with reference to section 9, which provides that the provisions of the act shall apply only to such States as have provided, or which may provide, a commission having full power to regulate rates and service of electrical power? You brought that up and discussed it for a moment. Have you any suggestion to make with reference to any addition?

Mr. FISHER. I have no suggestion, Congressman. My thought was——

Mr. THOMSON. What would happen as to the States that did not have such a commission? Would everything be stopped?

Mr. FISHER. That depends upon whether you have repealed the act of 1901 or not. That is what I suggested a little while ago, that you decide whether you repeal the act of 1901, and then you can answer that question. If it is repealed, then you have no power and can not give a water-power permit in those States. If it is not repealed, then you can grant a water-power permit in those States.

Mr. BROWN. But it is revocable.

Mr. FISHER. It is a revocable permit and very unsatisfactory.

Mr. THOMSON. Assuming that act should be repealed, either by this language or some other that might be put in the bill, would it not be rather unwise to leave the question of whether or not there should be water power developed entirely with the authorities that might or might not pass such an act?

Mr. FISHER. I think that is quite a serious question, yet I do not think it has a great practical value, and I imagine the States will very rapidly have commissions with power to regulate rates and service of electric power.

Mr. THOMSON. They will want to have development.

Mr. TAYLOR. Of course, most of them will.

Mr. FISHER. If that is not so—I am not willing to rely upon that question—it may be the department can work out some alternative suggestion here so as not to leave such a State as that hung up by the gills.

Mr. RAKER. Mr. Fisher has already suggested to put in here a provision in case the city had no such body the Federal Government should act.

Mr. KENT. Mr. Chairman, in that connection, I spoke of the Hetch Hetchy bill. It provides that the grantee shall develop and use hydroelectric power for the use of its people, and shall, at prices to be fixed by the laws of California, or, in the absence of such laws, at prices approved by the Secretary of the Interior, etc. You see, if California has a commission that commission is recognized, but if it has not a commission then the regulating is done by the Secretary of the Interior; and I think that is what ought to be in this bill.

Mr. CLEARY. Mr. Chairman, may I say a word there?

The CHAIRMAN. Yes.

Mr. CLEARY. As the Secretary well knows, a number of permits have been granted under the act of 1901 in the Sequoia National Park which are used to develop electricity for pumping plants for the city of Visalia and all along that district, and those were granted under the act of 1901. And if permits can not be granted under the new bill, and the act of 1901 is entirely repealed, it would do away with securing that power and absolutely destroy any possibility of irrigation all through that section in the neighborhood of Tulare and Visalia. And might it not be well to take into consideration that point as to revocable permits now existing, under which they are operating and of which they have granted some three or four, and all that irrigation absolutely depends upon those revocable permits;

and without that electricity this irrigation is absolutely impossible except by steam power.

Mr. FISHER. As I understand the situation, it is this——

Mr. CLEARY. I am pointing out the danger of revoking the act of 1901 by this bill in cases which are not covered by this bill.

Mr. FISHER. In the first place, of course, repealing the act of 1901 would not repeal your permit; the permits would still be in effect. All the permits issued under the act of 1901 would remain in force, but the only thing is they could not grant any new ones. The difficulty would be, if for any reason the permit should be revoked, you would then have to do what has been suggested by Mr. Ferris, namely, come to Congress and get a bill. Presumably the Secretary would not revoke the permit until he gave you an opportunity to discuss such a bill.

Mr. CLEARY. The Secretary has found it necessary, upon three or four occasions, to modify the permits that have been granted, because of conditions that were favorable to the Government; but if that bill were entirely repealed, as to these national parks, it would prevent any subsequent modifications if such modifications were found necessary—and one has just recently arisen and is at present under consideration. So I wanted to make the suggestion to you, who were so well conversant with this matter, of the condition which would exist from entirely repealing the act of 1901, or repealing the act of 1901 any further than it was inconsistent with the act that is now under consideration.

Mr. TAYLOR. That refers to the repealing clause here in section 14. It says "That acts and parts of acts inconsistent herewith are hereby repealed." That just wipes out every act that is inconsistent. It seems to me it ought to say to the extent of the inconsistency.

The CHAIRMAN. That is a matter of form.

Mr. GRAHAM. Is not that what it means now?

Mr. FISHER. It may.

Mr. GRAHAM. Otherwise there would not be any sense in putting in "and parts of acts that are inconsistent."

Mr. FISHER. I think that would be the construction, myself.

Mr. TAYLOR. There is no difference in the distinction, as a matter of practical justice, law, or equity between the nonnavigable streams to which they are now seeking to make this law applicable and the navigable streams which clearly belong to the United States, is there?

Mr. FISHER. There is no difference whatever, except of the one fact that this permit will involve not only the use of the stream and the structure in the stream, but it covers rights of way over public lands.

Mr. TAYLOR. If there is a difference, is not the justice of this kind of a law as against the navigable streams much stronger than it is against the nonnavigable streams of the West, for the reason that in the West the States own the water; whereas in the East the Government controls the navigable streams and the States never did own the water or claim to own it?

Mr. FISHER. I do not think it makes any real difference, Mr. Taylor. I think the difference is tweedledum tweedledee. The real question is "What ought you to do in the public interest? If you decide that, the next question is, Have you the technical authority to do it? I have always said I do not care what the nail is, or what peg you

hang it on, if it is done in the public interest. It is a matter of little consequence to me what the nail is provided it will stand the test of the courts. The essential thing is to know what you want to do and what the interests of the public justifies.

The CHAIRMAN. I think the sentiment in the country is pretty well defined as to what ought to be done about water powers. Now, we threshed that around the table for weeks and weeks in the Hetch Hetchy proposition, and any State-rights man who is extreme on that proposition, individually swallowed his own tongue, for the moment at least, in that bill. We undoubtedly hurdled the whole proposition there.

Is there any doubt in your opinion that the Secretary of the Interior should have that power?

Mr. FISHER. I think not. I think you have a right to do anything you choose with the public domain.

Mr. TAYLOR. Have not we the right to pass a bill here fixing a charge upon every ship that comes into a navigable stream or comes into a harbor?

Mr. FISHER. Yes.

Mr. TAYLOR. And is there any more reason why we should not do it than there is reason this should be done in the West?

Mr. FISHER. Undoubtedly there is. The same reasons that apply always to the Federal Government's spending money and spending it freely upon the navigable waters, because transportation on those waters is unrestricted. Anybody can put a vessel on if he has money to buy the vessel and can come to a dock and load and unload; and that is in the public interest. And we want to keep it just as untrammeled as we can, and you do not want to impose any more taxes or burdens upon water-borne traffic than you can possibly have.

Mr. TAYLOR. Why? Because the public buys and you can actually carry it cheaply and make it cheaper to the consumer?

Mr. FISHER. Certainly.

Mr. TAYLOR. And for the same reason, if you put a tax on the water in the West it makes it dearer?

Mr. FISHER. Not at all. That is the falacy you get into. It does not do anything of the kind. In the first place every man who is going to use this water for manufacturing products is going to sell those products in competition with the products made elesewhere and under other circumstances, he is also going to sell at the best price he can in competition with other sellers, and he is not going to sell any cheaper because he gets his water power for nothing.

If you have a plant out in Colorado manufacturing some farm product, where the power is generated by water, in competition with a product that is manufactured in Illinois by a plant where the power is generated by coal, your manufacturer is going to sell his product at the highest price he can get. He is just going to come enough under the other fellow to extend the output, is he not? The fact you do not charge anything for the water power is not going to have anything on earth to do with it; he does not sell to the consumer for any less on that account.

Mr. TAYLOR. If we have a public utilities commission he would.

Mr. FISHER. You can not fix the price of manufactured articles. You have never done it, and under existing constitutions in the United State you never could.

Mr. TAYLOR. We make our companies public utilities.

Mr. FISHER. Not for developing power for their own use. Suppose any power plant on earth that is going to use power in its own manufacture and it gets one of these permits. You can not touch it. The only way the public could get any return for that—the only way the public would get back the money to protect the watersheds and the trees—is through the taxing powers. And it won't make any difference on earth to the consumers.

The only chance you get to regulate is when it is being sold as a public utility. If a power site is being developed and the output sold to power consumers in general, then you can regulate effectively; but, as I pointed out, unless that power site is sufficient to furnish the electric development for that entire community and because it would cost more furnished by steam than by water, you can not effectively regulate the price by a public-utilities commission. As an illustration, the cost for development is $75 per horsepower generated by steam, and it costs but $60 to develop a horsepower by water, and all your public-utility commissions or local municipality can do is to say that must be sold at not more than $75. That gives $25 or $15, as the case may be, profit for the hydroelectric producer as compared with the steam producer; and the only way in which the public is going to get any of that $15 or $25, as the case may be, is in the shape of a direct assessment. You can not beat it; there is no way that regulation can reach it, Mr. Taylor. So it is in many cases.

The only purpose that I see at all on the compensation proposition is to take care of such difficulties as those and where the power-generating enterprise, for some reason or other, is unfairly regulated. Suppose, by improper means, it controls the regulatory authority, controls by blocking proper legislation or by not giving effect to statutes or by interferring with laws and legislation in one way or another antagonistic to its own interests. It hurts me to say that, but you and I know the methods which are being employed constantly, and there are men who, while they would not want to say it publicly, if you can get them to talk to you outside in the hall, will admit it. Such a man thinks he is justified, in many cases, because of the attacks made upon him, and he justifies the fact that he has probably gotten more than he ought to have on the ground he has had to pay costs that a man regardful of the public interests ought not to have been asked to pay in resisting attempts to put upon him too elaborate a law or too elaborate an administration. Suppose in any case the public regulatory machinery is not effective or is not on the job. Then the only way, I think, you can get any return to the public is through compensation; and if you adopt the theory of charging nominal rates of compensation to the public and reducing them periodically and never increasing them unless the facts justify it, you have some way of effectually taking up the slack and reducing those abuses and there is no other way known to human ingenuity, that I have ever heard, for doing that. I do not know of any other way, and I have studied it a good many years.

The CHAIRMAN. Is there anything further you care to suggest, Mr. Fisher?

Mr. FISHER. No; nothing occurs to me now.

Mr. SINNOTT. I would like to ask you, Mr. Fisher, whether or not you have made any estimate of what revenues might approximately be raised by virtue of this bill?

Mr. FISHER. No; I have not. It depends on so many things I should think it would be impossible to estimate with any accuracy. The theory I have just expounded, perhaps a little vehemently, is, in my opinion, the very essence of sound policy on this question; but if established, the amount of revenue from this source ought to be relatively slight. Yet there are many of those enterprises also, supposed to be developed for the benefit of private enterprise, where very large profits are possible and where, I think, very substantial compensation could and should be exacted.

Mr. SINNOTT. I saw in a statement attributed to you, I think, that revenues amounting to something like $40,000,000 or $45,000,000 a year would eventually be raised by virtue of a bill of this kind.

Mr. FISHER. I never made any such statement or estimate; nor did any such thing ever occur to me.

Mr. SINNOTT. Are you familiar, Mr. Fisher, with the bill which I think came over from Mr. Adamson's committee regulating dams upon navigable streams? I have not read the bill myself, but I saw it recently stated in a paper that such a bill was favorably reported, and I thought that bill would probably cover the matter Mr. Taylor spoke about.

Mr. FISHER. I have been informed that a bill has been under consideration by the Committee on Interstate and Foreign Commerce, covering the very point that Mr. Taylor has mentioned.

Mr. TAYLOR. The newspapers say they have reported it out. They said so yesterday.

Mr. FISHER. I also understand, I do not know how correct it is, that that bill does not properly protect the public interests. I understand that that bill is a bill which is not calculated to be very effective.

Mr. KENT. You mean the Senate bill or the original bill?

Mr. FISHER. I mean, if I understood it, the bill as it came from the committee.

Mr. KENT. On the bill reported a while ago there was just the mere statement that the Secretary of War thinks it does not interfere with the interests of navigation; but since then there has been a second bill.

Mr. SLATTERY. There has been a second bill, No. 16053, put down for consideration by the committee.

Mr. TAYLOR. Did you ever make any estimate as to whether or not the probable reasonable returns would equal the cost of administration?

Mr. FISHER. I presume in all of these matters, Mr. Taylor, that the nominal charge, to which I have referred, would always be made sufficient to take care of the cost of administration. That is what I mean by reasonable charge—a charge to do that and be effective.

I think, with a great number of the permits and with a nominal compensation in each case, the cost would sometimes be considerable, as compared with the cost of administration.

Mr. SINNOTT. What do you contend, Mr. Fisher, was the decision of the Supreme Court in this Chandler-Dunbar case?

Mr. FISHER. The Chandler-Dunbar case decided clearly, beyond all question, that the Federal Government has absolute jurisdiction over the navigable streams and that that jurisdiction supersedes the power of the riparian owner and underlies and is superior to any existing permits under which structures have been built in navigable streams.

Mr. SINNOTT. That is when the structures impede navigation on the stream?

Mr. FISHER. Yes.

Mr. SINNOTT. What is the document in which that decision is published?

Mr. FISHER. The document is Senate Document No. 51, Sixty-third Congress, first session, and the decision was rendered by the Supreme Court on May 26, 1913; so that you can find it in the Supreme Court reports of that date.

Now, if you will pardon me, I will read some selections from that decision. The court said:

> Having decided that the Chandler-Dunbar Co., as the riparian owners, had no such vested property right in the water power inherent in the falls and rapids of the river, and no right to place in the river the works essential to any practical use of the flow of the river, the Government can not be justly required to pay for an element of value which did not inhere in these parcels as upland. The Government had dominion over the water power of the rapids and falls and can not be required to pay any hypothetical additional value to a riparian owner who had no right to appropriate the current to his own commercial use. These additional values represent, therefore, no actual loss, and there would be no justice in paying for a loss suffered by no one in fact.

Mr. SINNOTT. He was claiming injury to his contiguous holdings.

Mr. FISHER. The facts are these: The Chandler-Dunbar Co. bought riparian property and, if the claim made by the constitutional lawyers during the debate on the Connecticut River bill was correct, had the right to build a structure in that river to develop power, provided only that the structure did not interfere with navigation. And if he could show that he had not impeded navigation by that structure, it was the duty of the United States to grant a permit for such structure.

In addition to that the Chandler-Dunbar Co. had gone further, because it had certain revocable permits under the laws then existing, under which it actually proceeded to construct certain permanent structures. The Federal Government came in and established a comprehensive plan for the development of that stream, and in order to do that they had to acquire the property of the Chandler-Dunbar Co. The question was what should it pay the Chandler-Dunbar Co. The Chandler-Dunbar Co. claimed they were entitled to compensation based upon the theory that, as a matter of law, their ownership of riparian property carried with it certain interests or rights in the submerging land opposite their riparian land, and the Federal Government had to pay for that property its substantial value for water-power development.

They raised, you see, the whole question of the Federal authority and the extent to which a private interest could claim a right to protection.

Mr. KENT. Right there, I would like to ask a question on the navigability of that part of the stream. That was not involved in this case, was it?

Mr. FISHER. Only to the extent, of course, it was claimed the stream was not navigable.

Mr. SINNOTT. That case held the rights of the riparian owner were subservient to the paramount rights of the Government and navigation, and that was solely the holding; and, in addition to that, the case held that the water power that was incidentally developed might be sold and leased.

Mr. FISHER. Yes; might be leased by the Government, and it might determine the character of a structure with the view to developing the water power; that it was the sole judge as to what it would do in a navigable river, what was the best means of developing it. If you are interested in it, the decision further holds:

The technical title of the Chandler-Dunbar Co., therefore, includes the bed of the river opposite its upland on the bank to the middle thread of the stream, being the boundary line at that point between the United States and the Dominion of Canada.

Now, the court held in the first place that the property of the company included the bed of the stream, so there was not any question about the riparian owner owning the bed of the river.

Over this bed flows about two-thirds of the volume of water constituting the falls and rapids of the St. Marys River. By reason of that fact and the ownership of the shore, the company's claim is that it is the owner of the river and of the inherent power in the falls and rapids, subject only to the public right of navigation. While not denying that this right of navigation is the dominating right, yet the claim is that the United States in the exercise of the power to regulate commerce may not exclude the rights or riparian owners to construct in the river and upon their own submerged lands such appliances as are necessary to control and use the current for commercial purposes, provided only that such structures do not impede or hinder navigation, and that the flow of the stream is not so diminished as to leave less than every possible requirement of navigation, present and future.

Now, there was the claim. That did not go anything like as far, you see, as many of the constitutional lawyers now go against the Federal Government, because here the claim was they owned the riparian property and the bed of the stream, and they could build such a structure, but such a structure only as would leave the whole question of navigation open.

This claim of a proprietary right in the bed of the river and in the flow of the stream over that bed to the extent that such flow is in excess of the wants of navigation constitutes the ground upon which the company asserts that a necessary effect of the act of March 3, 1909, and of the judgment of condemnation in the court below is the taking from it of a property right or interest of great value, for which, under the fifth amendment, compensation must be made.

This is the view which was entertained by Circuit Judge Dennison in the court below and is supported by most careful findings of fact and law and an elaborate and able opinion. The question is, therefore, one which from every standpoint deserves careful consideration.

This title of the owner of fast land upon the shore of a navigable river to the bed of the river is at best a qualified one. It is a title which inheres in the ownership of the shore and, unless reserved or excluded by implication, passed with it as a shadow follows a substance, although capable of distinct ownership. It is subordinate to the public right of navigation, and however helpful in protecting the owner against the acts of third parties, is of no avail against the exercise of the great and absolute power of Congress over the improvement of navigable rivers. That power of use and control comes from the power to regulate commerce between the States and with foreign nations. It includes navigation and subjects every navigable river to the control of Congress. All means having some positive relation to the end in view which are not forbidden by some other provision of the Constitution are admissible.

If, on the judgment of Congress, the use of the bottom of the river is proper for the purpose of placing therein structures in aid of navigation, it is not thereby taking private property for a public use, for the owner's title was in its very nature subject to that use in the interest of public navigation.

That is to say, his interest in the submerged land was always subject to the right of the Government to go in and take that land for navigation purposes.

If its judgment be that structures placed in the river and upon such submerged land are an obstruction or hindrance to the proper use of the river for purposes of navigation it may require their removal and forbid the use of the bed of the river by the owner in any way which in its judgment is injurious to the dominant right of navigation.

The court says that whether the structure is a good thing or a bad thing for navigation, when Congress speaks that is the end of it. It may be just as wrong as you choose upon the question of fact, but when it speaks that settles it.

So, also, it may permit the construction and maintenance of tunnels under or bridges over the river and may require the removal of every such structure placed there with or without its license, the element of contract out of the way, which it shall require to be removed or altered as obstructions to navigation.

Then it quotes the various decisions.

Mr. SINNOTT. Might I interrupt you there? Is it your opinion that that case is an authority for governmental control over streams other than control connected with navigation?

Mr. FISHER. Yes, in one sense; no, in another.

If you say "other than connected with navigation," I say no; Congress has no such power. But I take the next step, and that settles the whole question: When Congress says such and such a thing is in the interest of navigation, that settles it, and the courts can not inquire into the question whether it is right or whether it is wrong. Its power is absolute.

Mr. SINNOTT. In that relation there would be no connection with navigation?

Mr. FISHER. It does not make any difference.

So unfettered is this control of Congress over the navigable streams of the country that its judgment as to whether a construction in or over such a river is or is not an obstacle and a hindrance to navigation is conclusive.

I can not see that the English language is susceptible of any more emphatic statement.

Such judgment and determination is the exercise of legislative power in respect of a subject wholly within its control.

Now, it does not make a particle of difference what the structure is. Senator Root said in the debate on the Connecticut River dam bill, Congress has, from time immemorial, not only exercised the right to protect and see that navigation was not impeded, and also to promote navigation and make navigation if it wants to; and when it speaks, that is the end of it. It may exercise its judgment badly, or it may misunderstand the facts, but what it understands is the law.

Mr. GRAHAM. If it says the Falls of Minnehaha were navigable, they would be navigable?

Mr. FISHER. They would be navigable. It can take any stream, and when it says so, whether it is a navigable stream or not, that settles it.

Now, the question, of course, what Congress ought to do in this regard is another subject. Therefore we have the situation I spoke of in the beginning: If you and I can agree what is necessary for the regulation of a water power on a navigable stream or on an unnavigable stream, the only question then is whether Congress has the technical power, and this decision says it has this technical power; therefore if what you are seeking to do is in the public interest why should we quarrel about questions of legal construction or the agency that is going to do it? Let us do the thing, and let us not bother about the hook or the nail on which we hang it.

Mr. TAYLOR. Mr. Fisher, did I understand you to say Congress has power over nonnavigable streams?

Mr. FISHER. Oh, no. I say this, that let us take a case where there is a nonnavigable stream—and it was such a stream that Congress would not stultify itself to say it was navigable—I say, that if we can develop the water power upon that stream under certain general conditions, reserving the effective control to the Federal and State Governments, it is the wise way to develop it. The great thing you are concerned with is really finding a technical basis to bring such control beyond suspicion of illegality. Now, if you are so unfortunate in your case as to have only nonnavigable streams, and we have for any reason lost control, although it is a source of a navigable stream, the only thing we can do is to regret the situation; but that makes it all the more important that in cases where we have the technical power we shall exercise it.

The CHAIRMAN. Mr. Fisher, right there: Every day our authority is challenged, even when we own the land of a dam site, to go ahead. I wish you would spend a moment on that.

Mr. FISHER. My answer to that would be the Yankee method of asking a question. The mere asseveration of the fact we have no power, does not prove it; but the more vehemently it is asserted, the more question you raise as to whether it is true or not. There can be no question whatever but what we have the power over the public domain. Congress has passed laws, and the courts have upheld them, and, in so doing, held that the power of the Federal Government over the public domain is absolute.

Now, that is just like the navigable streams. Do not let us quarrel about whether or not the States or the Federal Government owns the water in the stream. There are differences of opinion about that. Some lawyers say by no means is it clear that the Federal Government has lost its control over the water in many of these Western States, where the claim is made; but I do not think it is important, because the most important strategic points available to us there are in the public domain, and there is no question we own the land on which the water flows; and if we own the land which is absolutely essential to the location of the power plant, do not let us bother about the water.

The CHAIRMAN. Do you or do you not concede the State owns the water?

Mr. FISHER. I do not concede it.

The CHAIRMAN. Even supposing for a moment they do own the water, if we own the land, that is our land, and our authority being absolute, haven't we the power to fix such conditions as we desire for the use of that land?

Mr. FISHER. I do not think there could be any question about it. The only claim against it is a sort of vague statement that the Federal Government owns the lands only as trustee for the use of the people.

Mr. SINNOTT. I think the term is used, "proprietary ownership," as distinguished from absolute ownership.

Mr. FISHER. Yes; but the language of the courts is utterly inconsistent with that, and I do not know what the difference is between a person as trustee and the Federal Government acting as trustee. The only question I see is this: Is the thing the trustee is talking about doing something that is in the interest of the beneficiary? If the Federal Government is seeking to do something for the interest of the public—and that is the theory of the law under which I say we are going—and if it is a proper thing to do this way, then even the theory of sovereignty supports that claim, because it is exercising its power for a particular public interest, and not in the nature of a proprietary interest.

The CHAIRMAN. Assuming for the moment they are not acting for the best interest of the State, has the question ever come up where a court has passed on it anywhere to the effect that the Federal Government did not have absolute control and ownership of the public domain?

Mr. FISHER. The question has come up.

The CHAIRMAN. What has the court said about it?

Mr. FISHER. Oh, in every instance the court has said that it has control.

The CHAIRMAN. There is not any exception to that?

Mr. FISHER. I know of no exception. Do you, Mr. Finney?

Mr. FINNEY. I know of no exception. The court has held that the Government might sell or keep it, as it thought proper.

The CHAIRMAN. Where does this State right question come in?

Mr. FISHER. I think it comes in just from vague thinking on the subject. There are a number of the good people of the West who, with the best intentions in the world, have got this thought in their minds. A certain number of them in some way have imbibed the idea that the Federal Government is trying to do something to them which it would not do now or would not have done in the East. Nothing can be more fallacious. There is not anything on earth that is proposed by any advocate of conservation that I think is worthy of the name or worthy in any way to be identified with that movement; there is nothing on earth that any such man has advocated in the West that he does not regret not having occurred in the East. The fact that we have lost control over the coal-mine territory of the East, that is now absolutely in the grip of what constitutes a coal monopoly, is no reason why we should work to the same results in the West. It is a reason why we ought to take steps now to restrain them from doing in the West what they have done in the East. We are now buying back with Federal moneys in the Appalachian Range the very kind of property a lot of people in the West are complaining about because we are keeping it in the forest reserves out there. Instead of our letting it get into private hands and letting them clear off the timber so that a great deal of the timber will never grow on it again and then our having to come in and buy it back—and we are protecting the streams upon which the water depends, which is the

very life of the West—and buying it back at an enormous cost, why shouldn't we hang on to it now? Why part with it? And, for instance, in the State of Idaho I undertake to say that any man with the power of presenting an argument can run for public office on that issue, or in any State there is in the West, and win at the polls. You go into any of those States, as I have gone, and discuss this question before any public audience, for instance at the city of Seattle, and you get your come-back, and see it come. Why they are 10 to 1 for the proposition.

It is the man who thinks he can in some manner when he is talking about developing the resources of the West—it is the man who wants to develop them for himself and for his own profit who is shouting against the conservation policy. It is not the ordinary citizen who is going to buy electric energy from the company which is developing it for sale; it is only the man who wants to put up the money and then use and sell the power to private people and sell it at a profit to himself. He is the one who is talking about the unfairness between the East and the West in our public-land policy, and I know nothing, Mr. Chairman, upon which to base it, but I would suggest what I have already said, that I do not think a single thing we want is not sound to the intelligent and disinterested man.

Mr. TAYLOR. Don't you think it would be better, under our form of Government, if we regulate this all through some Interstate Commerce Commission or some other regulatory body rather than have the Government of the United States go into this leasing business and have armies of Federal supervisors brought in in those industries of the country and retaining them in public ownership under a dual form of Government that would impose upon us all?

Mr. FISHER. If you will stop just a moment, I think I can answer this. You do not want to create any more bureaucracy than necessary. If you will coordinate and reconcile the principle of local home rule with the principle of general control, then you will not get into trouble. You want to adopt the two things and try to harmonize them and make them work together. That is what I understaod is the general theory of this bill.

Now, what is the citizen of Colorado interested in, as such? He is not interested in the agency by which the permit is granted; he does not care whether he gets a permit in Denver or Washington. What he is interested in is knowing whether he gets a permit that treats him fairly. The consumer is not interested in whether or not the administration of the law is placed in Denver or entirely in Washington. He is interested in a right law, as is every other citizen of the United States.

With reference to the rate of compensation, where regulation service and prices do not take care of consumer's interest and can not protect him fully, and in the application of the revenue so derived, in such manner that it will be applied to its benefit, looked at broadly and comprehensively, rather than collected in one locality and used in another: Of course the consumer in Colorado does not want his money taken and used for the benefit of the man in New York, who really owns the local utility. You want to put all the revenue over the cost of administration back into the locality from which it is taken.

Mr. TAYLOR. That is what I meant when I referred some time ago to the fairness of your statement in that respect.

Mr. FISHER. I have always said that, and you will find it stated in both annual reports I made as Secretary of the Interior just as emphatically as I have said it to-day.

Mr. TAYLOR. But there is too much "conservation policy" to get that into the Federal Treasury all the time?

Mr. FISHER. Oh, no. Mr. Taylor, I made a speech before the chamber of commerce of the city of Denver and I asked just one question. I said, "I came into your town this morning and I bought your papers and read them, and I find the statement made that there is not a single irrigation project now carried on in the State of Colorado, not a single project, of which the State has jurisdiction that is at this time being utilized to furnish water to the settler; not one." I said, "Is it so, or is it not so? I do not know anything except what the papers said. The reports reach our department to this general effect." I said, "If so, do you want to make regulations to suit the farmers or the monopolists? Do you want the Federal Government to loosen up or tighten up? Or do you want to use both agencies, or only one?" I said, "You want to have a great national park created right next to you, and if it was not for the fact that the land was held as a forest reserve there would not be any land to talk about for a park." I said, "Now, are you glad or sorry that area was reserved as a forest reservation? Which would you rather we had done, to have had the policy we have now, so that we can really talk about turning the area into a park, or not have anything to talk about? If it was not for the policy of conservation that land would not be there." Well, all I can say is that I stopped and the audience laughed and then they applauded; and I have, from that day to this, gotten no answer to those questions.

Just let me conclude, now, about this Chandler-Dunbar case. The court says:

> Upon what principle can it be said that in requiring the removal of the development works which were in the river upon sufferance Congress has taken private property for public use without compensation? In deciding that a necessity existed for absolute control of the river at the rapids, Congress has of course excluded, until it changes the law, every such construction as a hindrance to its plans and purposes for the betterment of navigation. The qualified title to the bed of the river affords no ground for any claim of a right to construct and maintain therein any structure which Congress has, by the act of 1909, decided in effect to be an obstruction to navigation and a hindrance to its plans for improvement. That title is absolutely subordinate to the right of navigation, and no right of private property would have been invaded if such submerged lands were occupied by structures in aid of navigation or kept free from such obstructions in the interest of navigation. We need not consider whether the entire flow of the river is necessary for the purposes of navigation, or whether there is a surplus which is to be paid for, if the Chandler-Dunbar Co. is to be excluded from the commercial use of that surplus. The answer is found in the fact that Congress has determined that the stream from the upland taken to the international boundary is necessary for the purposes of navigation.

Congress has found that, and that settles it.

> That determination operates to exclude from the river forever the structures necessary for the commercial use of the water power. That it does not deprive the Chandler-Dunbar Co. of private property rights follows from the considerations before stated.

It is said that the twelfth section of the act of 1909 authorizes the Secretary of War—

Now, Congress, in other words, gave the private owner the benefit of putting its purposes clearly in the bill. It did not hide; there was no subterfuge about it. It did not, in other words, in the bill just claim control for the sole purpose of protecting navigation and then go ahead and develop the water power and sell it; but it wrote into the bill the fact that the taking was primarily for the purpose of navigation and incidentally for the purpose of having water power developed.

* * * to lease, upon terms agreed upon, any excess of water power which results from the conservation of the flow of the river and the works which the Government may construct. This, it is said ,is a taking of private property for commercial uses and not for the improvement of navigation. But, aside from the exclusive public purpose declared by the eleventh section of the act, the twelfth section declares that the conservation of the flow of the river is "primarily for the benefit of navigation and incidentally for the purpose of having the water power developed, either for the direct use of the United States or by lease * * * through the Secretary of War."

Of course, that involves the Chandler-Dunbar Co.'s claim that the real purpose, as shown by that language, was to develop water power as well as to protect navigation, and water power was not necessary for navigation. The court said, continuing:

If the primary purpose is legitimate, we can see no sound objection to leasing any excess of power over the needs of the Government. The practice is not unusual in respect to similar public works constructed by State governments.

Then it goes on to cite cases, and continues:

It is, at best, not clear how the Chandler-Dunbar Co., can be heard to object to the selling of any excess of water power which may result from the construction of such controlling or remedial works as shall be found advisable for the improvement of navigation, inasmuch as it had no property right in the river which had been taken. It has, therefore, no interest whether the Government permit the excess of power to go to waste or make it the means of producing some return upon the great expenditure.

Now, that decision is epoch making. As I said, it makes waste paper of all this constitutional discussion. And it does more, Mr. Taylor, it puts the two matters of principle together. And I think they ought to be treated together, and if your committee thinks it has the power to report a water-power bill of this sort affecting navigable rivers, I very strongly urge it report both.

Mr. TAYLOR. It seems to me it is not going to be regular. It seems to me we ought to insist upon all streams in the United States being treated the same way. It seems to me if it is a great national policy which is going to be taken up, why shouldn't it be true for somebody else?

Mr. FISHER. You are right; but that should not lead you into the position of saying if you don't do it for them, we do not want you to do it for us. The fact that you do not get the whole loaf does not necessitate not taking a part.

Mr. TAYLOR. We can not resist a feeling that they are putting it on us because they are bigger than we are.

Mr. FISHER. If that is the feeling, I won't encourage it. What I do not like to see is this: Do not keep up the opposition and tie up the resources of the country when there is a bill like this that will open them for development.

Mr. TAYLOR. Why don't they go further and conserve the existing water powers of these people back here?

Mr. FISHER. My dear sir, we have.

Mr. TAYLOR. And why don't you observe the same rule and make it applicable to the navigable streams of the United States?

Mr. FISHER. We have.

Mr. TAYLOR. Why didn't you do it in the last four or five years?

Mr. FISHER. We have. You will find, Mr. Taylor, upon looking into it that you will express more favorable surprise than you did a little while ago. Every one of the conservationists have always been in favor of these things I express to-day, and if you will look at the facts, and consider those things, you will see we are doing just that. The only reason we have not succeeded is because the men not so intelligent upon this subject are opposed to our plans. Now, you take it from my own report, that is the first report I made. If you will turn to the report for 1912 you will find the same thing. I said:

The hearings before the National Waterways Commission were especially important and resulted in a unanimous report which marks at least a definite step forward toward a constructive water-power policy. Bills have been introduced providing for the definite adoption of such a policy with respect to public lands. The passage of two bills by Congress authorizing dams in certain navigable streams and the discussions over these bills and over the forceful messages in which you vetoed them have clearly pointed out the necessity for amendment of the general dam act and have suggested the amendments which would be appropriate. It is earnestly hoped that legislation will be promptly adopted with respect to both of these branches of water-power development which will encourage vigorous development without the sacrifice of public interests.

When it became apparent that Congress was not likely to act with respect to water-power sites upon the public domain, a series of conferences was arranged.

The CHAIRMAN. We are very much obliged to you, Mr. Fisher, and we will take a recess now until to-morrow morning at 10 o'clock.

(Thereupon, at 1.50 o'clock p. m., the committee adjourned until to-morrow, Friday, May 1, 1914, at 10 o'clock a. m.)

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Friday, May 1, 1914.

The committee met at 10 o'clock a. m., Hon. Scott Ferris (chairman) presiding.

The CHAIRMAN. The committee will be in order. You may proceed, Mr. Pierce.

STATEMENT OF MR. HENRY J. PIERCE, 913 GREEN BUILDING, SEATTLE, WASH.

Mr. PIERCE. Mr. Chairman and members of the committee, I have been interested in water-power developments for the past 18 years. I was formerly president of the International Railway Co., which operates some 500 miles of electric road in western New York, and which has a power plant at Niagara Falls. I have been a resident of the Northwest for some years past, and am a member of the Priest Rapids Land Owners' Association, comprising over 1,000 members and who own in the aggregate 135,000 acres of land located in

the central part of the State of Washington, on the Columbia River. This land is above the reach of gravity water. It lies some 300 feet above the river. The quality of the soil is such that any product that can be grown in the Temperate Zone can be raised there if we could get water. We have at that point a remarkable segregation of natural resources. We have the land, we have the water in abundance, and we have, in the rapids of the river, more than sufficient power, if utilized, to raise the water to the land. The land is capable of supporting a population of 15,000 to 20,000 people. We are hoping that eventually the surplus power beyond the amount necessary to operate the pumping plant for raising the water to irrigate the land will be used in the manufacture of the great fertilizer, nitrate of lime, obtained from the fixation of atmospheric nitrogen. This power at Priest Rapids, if utilized, would be used for these two great agricultural purposes, the reclamation of land and the manufacture of fertilizer.

This whole situation at present is lying fallow. The Priest Rapids district does not contain a population of over 50 people, but it only waits the passage of water-power legislation under which capital may be obtained to develop into what I have outlined.

I have given you this object lesson, because it is the one that has come most under my observation, but our western country is full of just such other situations. Secretary Lane, in his report to Congress last fall, suggested that $100,000,000 might well be appropriated by the Government for the reclamation of further arid lands; and everyone applauds that sentiment.

But if Congress will enact a practical water-power bill I do not think it is too much to say that within the next 10 years $500,000,000 of private capital will be used in the West for the reclamation of arid lands.

For the development of the power, reclamation of the land, and establishment of these factories at Priest Rapids something like $60,000,000 will be required, and I can say to you as a matter of fact that the money can be obtained if we can secure the proper kind of practical legislation that will warrant it.

I spent four months of last year in Europe investigating the new uses for electricity which have sprung up there recently. The past five years have seen enormous development of hydroelectric projects in Europe, while there has been practically no progress of that kind in this country. I visited in Norway, Sweden, and Germany the works that have been built recently for the manufacture of nitrate of lime. At Trostburg, Germany, where they make 20,000 tons of this product per year, all of it is consumed for fertilizing purposes within a radius of 50 miles of the factory in which it is made, and I was so much interested in what I saw that I spent three days going out through the country which is supplied with this fertilizer. I could not talk the German language, but the people who operate the factory kindly gave me an interpreter and I talked with the farmers through the country and they told me that by the use of this fertilizer their crops were increased two to three fold. Upon investigation I found that they used an average of 300 pounds of fertilizer to the acre, whereas in the United States we use but 27 pounds. Further, their average crop of wheat and other cereals is two to three times as great as ours.

I am only speaking of these things because the development of power is intimately connected with agricultural development in this country. We imported last year into the United States nitrogenous products having a value of over $42,000,000. Nearly all of this could have been produced in this country, meaning the employment of thousands of men, and we have got to come to it.

The nitrate of lime people have tried to establish their industry in the United States, but they are prevented because capital will not invest under the restrictive laws now in force. Canada is trying to secure the establishment of the industry in their territory.

Mr. GRAHAM. Before you leave that point, would you kindly explain what restrictive laws you refer to?

Mr. PIERCE. I refer to the revocable permit, which only can be obtained at the present time. Capital will not invest its money in the development of water power under a revocable permit. I am only speaking now of the present situation. You all know that an effort was made to establish a cyanide factory two years ago in the United State. A bill was passed by both Houses of Congress and President Taft vetoed it, and then the factory was forced to locate at Niagara Falls, on the Canadian side; $6,000,000 to $8,000,000 has been invested in that factory, and it employs several thousand men, and ships nearly all its product to the United States. Canada has recently granted a perpetual franchise on the Saguenay River, covering the development of water power to the extent of 600,000 horsepower. There are no stipulations in regard to it, and no tax is imposed. All that the Government asks is that work shall be begun in good faith within three of four years. For this franchise they required $15,000 to cover Government expenses. There are in New York at the present time representatives of the nitrate of lime industry, and they are seriously considering establishing great factories on the Saguenay River to operate under these franchises, but they are waiting to hear what Congress will do in this matter. I think they would be glad to come before this committee if you would like to hear them.

A European steel corporation has recently perfected a process for the manufacture of steel from ore by electricity, and there is no question but that the method will be used wherever steel is made all over the world. Dr. Caro, the famous Berlin chemist, has recently perfected a process for the manufacture of cyanide, which is used in the treatment of ore, by which it may be manufactured at one-third of the present cost. This will mean a revolution in mining, and ores now thrown away as useless will be utilized at a profit.

Mr. RAKER. That is also true of copper, is it not?

Mr. PIERCE. Yes; the electric age is on us, and use for the great amount of electric energy that may be produced in this country is assured.

Mr. GRAHAM. Just a question there. Are those experimental schools in Germany that you spoke of governmental institutions?

Mr. PIERCE. There are splendid governmental institutions for experimental purposes in every line, including chemistry and metallurgy.

Mr. KENT. Are the power grants there perpetual?

Mr. PIERCE. I think they are. I was going to speak about that a little later.

In the State of Utah they have wonderful natural resources, such as sulphur, salt, and other basic materials which may be used in the manufacture of cyanide and other electric chemicals. In Idaho and Wyoming there are immense quantities of phosphates, as well as in Florida and through South Carolina. A process has been recently perfected by which phosphate rock can be treated with electricity instead of with sulphuric acid, and thus another great use is coming for electricity.

In Oregon there are deposits of soda which can be used to advantage in electro-chemical manufacture, and through the South and in Illinois and Michigan a great electro-metallurgical industry is sure to be established.

I consider, gentlemen, that the enactment of practical water-power legislation is decidedly the greatest proposition commercially before Congress to-day. The development of water power is most intimately related to the comfort, convenience and prosperity of all our people and you have a great question to decide. I trust it may be decided in a manner that will permit of practical results.

Now, we come to the consideration of the bill, and in order to bring my suggestions before you in concrete and concise form, I have incorporated my amendments in a sufficient number of copies of the bill so that you can each have a copy before you as we discuss the matter.

I want to say that I am not here to criticise this bill, but to be helpful. All I want is to see results, no matter whether it is to be under Federal supervision or under State supervision. I do not care from a practical standpoint which one it is.

The CHAIRMAN. Or under both?

Mr. PIERCE. Or under both. All I want to see is results, and I come here, as I say, not to criticise, not to hammer, but to help a little if I can, because I have been making a very close study of the subject.

Permit me to say that I am a firm believer in the regulation of public utilities and of the development of water power. In my former capacity of president of a street railroad company, I will frankly say that when Gov. Hughes brought out his public-service commission bill I thought it was a dreadful thing, and I raised my voice with others against it, but found before we got through with it that, as finally amended and passed, it was a mighty good thing for us and we were glad to have it. The day of regulation has come and we have to accept it, and I am a firm believer in it. I have tried to make my suggestions for the regulation of water-power development seven times stronger than in the original bill, but my text is this: Let us be practical. There is no use of consuming your time and the time of Congress in the preparation and passage of any measure except one under which money can be raised for development purposes.

Now, proceeding with the consideration of the bill, I would like to tell you as we go along why I suggest these changes. The bill as originally framed reads, page 1, line 3, "That the Secretary of the

Interior be, and he hereby is, authorized and empowered under general regulations," and so forth. I suggest this be changed to read:

That the Secretary of the Interior be, and hereby is, authorized and directed to lease, under the provisions of this act, to any State or municipal subdivision thereof, or to any public-service corporation or similar agent of the State, which shall comply with the terms of this act, any part of the lands, etc.

As to regulations, I think the matter is fully covered in the twelfth clause of this bill, which I have not changed, and which reads:

That the Secretary of the Interior is hereby authorized to perform any and all acts and to make such rules and regulations as may be necessary and proper for the purpose of carrying the provisions of this act into full force and effect.

On the next page you will find that I have incorporated a provision under which the regulation of the development and operation of water powers in States which have no public-service commissions, and until such public-service commission is established is left to the Interior Department.

Mr. SINNOTT. Does your amendment prohibit the individual from securing a lease?

Mr. PIERCE. Well, sir, it would prevent any individual from securing a lease and taking advantage of this law, but I strike out the fourteenth clause, which reads, "That all acts and parts of acts inconsistent herewith are hereby repealed," which would leave to the individual, the smaller user of power, the present act to work under.

In the case of the small user, who would be developing power in amounts of less than 500 horsepower, the amount of capital involved might be such that he would feel that he could operate under a revocable permit; but I want to see the development of power placed under the supervision of the public-service commission or under the Secretary of the Interior.

Mr. RAKER. Would not this amendment which you have suggested here, "or similar agent of the State," include the private individual, which it ought to? If he is capable of being the agent of the State, if he contracts to assume these responsibilities, he should have the benefits of the law—I mean the benefits of condemnation.

Mr. PIERCE. It only costs $25 or $50 to incorporate as a public-service corporation. A man desirous of developing water power can associate with him one or two others and should be willing to go to that small trouble. I think we should put the regulation of the development of intrastate water powers under the supervision of the public-service commissions of the States.

Mr. RAKER. What I was trying to get at is, that the individual using a thing like this for the public service comes under the public-service commission just the same.

Mr. SINNOTT. They sometimes use it for their own exclusive purposes. That is frequently done in my State by individuals developing power for their farms and for their mines.

Mr. RAKER. But what I was getting at is, that when an individual becomes an agent of the State he assumes the responsibilities of the law, and necessarily has to furnish power to anyone else.

Mr. PIERCE. It would be all right if that constitutes him a public-service corporation.

Mr. GRAHAM. The words, "or similar agent" include the individuals?

Mr. RAKER. Yes.

Mr. TAYLOR of Colorado. If we want to make it the individual, let us make it plain. Your idea was that you did not feel it was advisable to put in the wording, "or person" there?

Mr. PIERCE. No; I did not think it was, because, as Mr. Fisher said yesterday, a manufacturing concern might come in and take a water right and perhaps use it for their own purposes and make undue profits from it. I say put them under regulation.

Mr. KENT. Your plan seems to have brought in the forcing of an individual to incorporate himself whether he wants to or or not, but what benefit does the Government derive in attempting to control the corporation, as against controlling an individual? Why should the individual incorporate?

Mr. PIERCE. Because he would then be under regulation.

Mr. KENT. Isn't he under regulation of the Federal Government if he takes a grant from the Government? The Federal Government can control him under the grant. In one case you have a limited liability and in the other case you have a corporate, a limited liability.

Mr. PIERCE. Under my suggested amendment the Government places the development of the power under the regulation of the public-service commission of the State.

Mr. KENT. All right.

Mr. PIERCE. While this bill as originally framed is a big step in advance of present legislation, and shows a great deal of care and thought on the part of its framers, yet to my mind it is too restrictive and does not have the directness and stability which capital requires.

The next change that I have made is in the ninth line of the first page. I would make that more definite. Instead of saying for a period not longer than 50 years, I would say for a period of 50 years. I do not think anybody would want to take a lease and develop a water power for a less period than 50 years. It would take 25 years in most cases before the water power would be fully developed, and I think a straight term of 50 years would make it more attractive to capital.

We have been guarding our water powers as though they were a scarce article; while if there is anything plentiful in the United States it is water power. It is possible to develop in this country 65,000,000 primary horsepower, and with the aid of storage reservoirs to increase this to 200,000,000 horsepower, but there has only been 6,000,000 horsepower, or 3 per cent of the whole, developed so far. We must be pretty generous with capital if we are going to get it to invest. We must, at least, be businesslike, and therefore I suggest that we make this measure attractive as may be, with due regard to the public interest. Therefore I suggest that we make the tenure 50 years from and after the beginning of operation of the initial installation as herein defined.

On the second page of the bill, beginning at line 4, which reads:

Provided, That such leases shall be given within or through any of said national forests, military or other reservation, only upon a finding by the chief officer of the department under whose supervision such forest, park, or reservation fall, that the lease will not injure, destroy, or be inconsistent with the purpose for which such forest, park, or reservation was created or acquired.

I have changed it to read:

Provided, That no such leases shall be given within or through any of said national forests, military or other reservation, if the chief officer of the de-

partment under whose supervision such forest, park, or reservation falls shall show by findings of fact that the lease will injure, etc.

The CHAIRMAN. Let me make a suggestion to you with reference to your amendments, to make the record more clear, that when you take up one of your amendments you state "the amendment I now wish to direct your attention to appears on line so-and-so, page so-and-so," so that when we read the hearings we can turn to the amendment. I think that will be a little better.

Mr. BROWN. Do you intend to incorporate the whole bill in the hearing?

The CHAIRMAN. I think we might let him run through and get it that way. If you will state clearly that the amendment occurs on a certain page and at a certain line, it will help the record.

Mr. PIERCE. I will follow that suggestion.

The CHAIRMAN. Then the record will show precisely what amendments you wish to direct the committee's attention to.

Mr. PIERCE. I make this suggestion in regard to the findings of the chief officer of the Department of the Interior who has supervision of such forest, park, or reservation falls, simply to make the matter more definite, and also not to leave to him such full discretion; not to let him say only, "In my judgment, this is so-and-so," but make him show his reason why it is so.

On page 2, line 13, after the word "applications," I would add "by States or municipalities"; and on page 2, line 14, after the word "for," I would add the words "State or." I suggest this change simply to broaden the matter and to allow the Secretary of the Interior to give preference to States as well as to municipalities. I can see where it might be possible that a State for some reason might want to develop water powers within its borders, and therefore I would give States as well as municipalities the preference in developing water powers before giving it to public-service corporations.

Mr. TAYLOR of Colorado. There are a great many cities that now own their plants, and it would be a great benefit, I would think, to them.

Mr. PIERCE. Yes. On page 2, section 2, line 16, I would strike out all in that section after the words "shall provide," beginning with the word "for" on line 16, and I would insert in lieu thereof, the following:

That the lessee shall commence construction of the project within two years from the date of the lease and shall thereafter, in good faith and with diligence, prosecute such construction and shall, within the further term of five years, complete and put in commercial operation such initial part of the ultimate development as shall be necessary to supply the reasonable needs of the then available market, and shall from time to time thereafter construct such portion of the balance of such ultimate development as may be necessary to supply adequately the reasonable market demands until such ultimate development shall be completed, and no extensions of the periods herein provided shall be granted except by the Secretary of the Interior.

I make this suggestion in order that the bill be made more definite and by way of amplifying the language in the original draft which reads, "for the reasonable development and continuous operation of the water power." The amendment I suggest provides the different steps under which the development shall be made. The lessee must begin construction within two years and must complete con-

struction within fixe years thereafter; although, if there is any good reason why it should be done, the Secretary of the Interior may grant further time.

I have stricken out lines 19, 20, and 21, page 2, reading "contract for the delivery to any one consumer of electrical energy in excess of 50 per cent of the total output." I heard yesterday with considerable interest what Secretary Fisher had to say in regard to this matter and the questions which were asked of him by different members of the committee on the subject. In the spirit of fairness to capital and that no unnecessary obstructions be placed in the way of development of the tremendous amount of water power that we have in this country; in the spirit of letting a man, to the greatest degree possible, run his own business, and also because I do not believe there would be half a dozen cases in the United States where it would become necessary to enforce such a restriction, I suggest that you do not give authority to make such regulation.

In section 3, page 2, line 24, I would strike out the word "in" and substitute for it the word "between," and after the word "States," in line 24, I would insert:

Or in States in which, and so long as, there is no public-service commission or other authority having full power to regulate rates and service.

So that that part of section 3, as amended, would read:

That in case of the development, generation, transmission, and use of power or energy under such a lease in a Territory or between two or more States—

I think it is better phraseology to say "between two or more States" than to say "in two or more States"—

or in States in which, and so long as, there is no public-service commission or other authority having full power to regulate rates and service, the regulation and control of charges for service to consumers is hereby conferred upon the Secretary of the Interior or committed to such body as may be later provided for by Federal statute.

That would give the Interior Department supervision of power developments in the States which have no public-service commission until such public-service commission is established, and then it would pass from the regulation of the Interior Department to that of the public-service commission.

Mr. SINNOTT. I would like to ask a question there—to direct your attention to something: Would not that leave the discretion to the Secretary of the Interior to determine whether or not the public-service commission of any particular State has sufficient and full power to act?

Mr. PIERCE. I do not think so. It would seem to me that we might take it for granted that any public-service commission appointed in a State would have the power that would be sufficient to regulate.

Mr. SINNOTT. The Secretary might think otherwise.

Mr. TAYLOR of Colorado. If the authority was deficient, they ought to make it stronger.

Mr. KENT. The Secretary is constantly called upon to make regulations, and, of course, it seems to me it could be very well put in letting him use his option that in his opinion they should have adequate power.

Mr. TAYLOR of Colorado. There are some public-service commissions that do not amount to anything; they are simply a mockery.

The CHAIRMAN. Let us not get too far away from our rule, gentlemen, that we all agreed to abide by. I suggest that we let the witness proceed with his statement until he finishes.

Mr. PIERCE. On page 3, line 3, after the word "That," I have inserted the words "there shall be no," and I have stricken out the word "the." And in line 5, page 3, after the word "hereunder" I have stricken out the words "may be permitted in the discretion of the Secretary, but" and have inserted after the word "but" the word "creating."

In line 11, page 3, after the word "service" I have stricken out the words "is hereby forbidden." My reason for this change is to make that part of section 3 more definite. In its original form it leaves it to the Secretary to decide whether he will allow a monopoly through a combination of plants or transmission, and it would seem to me that it would be better to have a clause stating specifically that there shall be no physical combination of plants or lines for the generation or distribution and use of power or energy under this act, or under leases given hereunder, creating combinations, agreements, arrangements, or understandings, express, or implied, to limit the output of electrical energy, to restrain trade with foreign nations or between two or more States, within any one State, or to fix, maintain, or increase prices for electrical energy or service.

On page 3, lines 13, 14, and 15, I have stricken out beginning in line 13 after the word "transferable," the words:

And no sale or delivery of power to a distributing company shall be made, except upon the written consent of the Secretary of the Interior.

I have inserted in lieu thereof the words:

Except by mortgage issued for the bona fide purpose of financing the business, to any transferee not having the capacity of lessee as defined hereunder.

My reason for this is that I think that the lease should be made transferable to any other public-service corporation that has qualified by putting itself under the public-service commission of the State to become a lessee hereunder. Also, it would be necessary in financing the project to put the proposition under the temporary ownership of a trustee in mortgaging.

I have also stricken out the words:

And no sale or delivery of power to a distributing company shall be made, except upon the written consent of the Secretary of the Interior.

I do not think this is necessary. Capital would consider it an obstruction and I can see no necessity for it. If development of water power were not to be under the supervision of the Interior Department or of the public-service commissions; if the lessee were to have the right to sell the power to whom and at what price he pleased, it would be a different thing; but if the lessee is a public-service corporation, and amenable to the regulations and restrictions of the public-service commission, he can not discriminate in price or in the sale of power. I believe that this bill amended in this way would make it perfectly safe if all the power in the United States were to be sold through one concern, because they would be under regulation so that they could not, if they wanted to, obtain more than what was considered a fair price for their product, and they could not discriminate in its sale. I would not allow them to do it. I would make the regulations such that there could be no unfair monopoly.

The lessee should have a fair return on his investment and beyond that the public should benefit through the low rates which would be demanded and which would be secured under the supervision of the public-service commissions of the different States or under the Federal control if the supervision were interstate.

On page 3, line 23, I have stricken out the words "first" and "actual," inserting the word "fair" in lieu of "actual."

On page 3, line 24, strike out the word "cost," and insert in lieu thereof the word "value."

On page 4, line 2, strike out the words "second, the reasonable valuation," and insert "the fair value."

On page 4, line 6, strike out the word "reasonable," and insert in lieu thereof the word "fair."

On page 4, line 10, strike out the word "reasonable," and insert in lieu thereof the word "fair."

On page 4, lines 11 and 12, strike out the words "or any other intangible element," and insert in line 11, after the word "will," the words:

Provided further, That if at the expiration of any lease period, the properties shall not be taken over as herein provided, the lease covering said properties shall continue until the right of taking over the properties herein provided shall have been exercised.

Going back to page 3, my only reason for changing these words "acttual cost" to "fair value," and for the same reason no page 4, changing from "reasonable valuation" to "the fair value," is that it seems to me we should take advantage of the phraseology which I understand is universally adopted and used in such matters as this by the courts in determining the value of properties. I am not a lawyer, but it has been suggested to me that the words "fair value" would be better than "actual cost."

Referring to the insertion which reads:

Provided further, That if at the expiration of any lease period, the properties shall not be taken over as herein provided, the lease covering said properties shall continue until the right of taking over any properties herein provided shall have been exercised.

This is suggested because it seems that the time between the end of the permit of 50 years and the time that the property might be taken over by the Government or a new lessee does not seem to have been covered in the bill.

Mr. TAYLOR of Colorado. That would make a grant in perpetuity, woud it not, pretty nearly?

Mr. PIERCE. No; only until such time as the Government might exercise its option to either take it over or make a new lease to some other lessee.

Mr. CHURCH. Otherwise there might be no operations there for a time?

Mr. PIERCE. Yes; that was my thought.

On page 4, section 6, strike out from the word "hereof," line 22, to the end of the section, and insert in lieu thereof the following:

Provided, That in the issuance of such new lease, preference right of lease shall be given to the original lessee.

I am afraid that in these copies I have given you lines 23 and 24, page 4, may have been cut off by the stenographer in fixing these

bills up, so you may have to refer to the original copies of the bill that you have before you.

Mr. GRAHAM. You have stricken all after line 22?

Mr. PIERCE. Yes. The words that I have stricken out read as follows:

Or at the option of the United States the lease may be renewed to the original lessee, upon such terms and conditions and for such period as may be authorized under the then existing applicable laws.

It seemed to me that the meaning of that part of the section was a little obscure, and therefore I suggest the insertion reading:

Provided, That in the issuance of such new lease preference right of lease shall be given to the original lessee.

It seems to me that this is only fair, and it will be best to give a preference right in the issuance of a new lease to the original lessee if he agreed to accept the terms offered by the Government.

On page 5, line 3, strike out the words "where, in the judgment of the Secretary of the Interior, the public interest requires or justifies the execution by any lessee of."

In line 7, page 5, strike out the words "such contracts," and after the word "of," in line 8, page 5, insert:

The public service commission or similar authority in the State in which the sale or delivery of power is made, or in case no such commission or similar authority exists, then upon the approval of the Secretary of the Interior.

In line 8, page 5, strike out the words "the said Secretary." My reason for doing this is to make the bill conform to the other amendments; that where contracts for the sale and delivery of electrical energy for periods extending beyond the tenure were made, the public service commission or similar authority in the State should give their approval, or if it was interstate then the Secretary of the Interior would approve. This is a very important point, because, for instance, these nitrate of lime people would not want to invest from $5,000,000 to $10,000,000 in enormous factories on a 50-year contract for power. They must have a power contract of at least 75 years, in order to be justified in investing their money.

We now come to section 8, on page 5, line 13, strike out the word "and," and in line 14 the words "other property."

The CHAIRMAN. Won't you state your reasons for that?

Mr. PIERCE. Yes. In section 8 I have stricken out the words "and other property," because I could not see what other property the United States might have than the lands which would be used in the water-power development. This is simply a suggestion. If the members of the committee can imagine any other property that the United States might have, we can leave it in. It is only a question of expediency.

Mr. RAKER. I would like to suggest right there that under the provisions of section 5, line 24, the Government is permitted to obtain the entire plant after taking it over, which would be the water right which the lessee had obtained by purchase from the State or its grantees, and if the United States took it over and gave it to a second lessee, then the United States would have the water and all the instruments connected with it, and would then lease to the second lessee not only the land, but the water which it had gotten from the first lessee.

Mr. PIERCE. I can see that is so, and the words should be left in.

Mr. CHURCH. Including all power houses, power plant, etc.

Mr. PIERCE. Yes.

Mr. RAKER. I was going to ask you later, this provides that after a man had obtained a lease of the land of the Government he then purchases water rights. They may be very valuable indeed. The Government only takes the water, but under this section 8 it is leasing the water and lands too.

Mr. TAYLOR of Colorado. Can the Government confiscate more than what it grants?

Mr. RAKER. That is just what this bill says, and I am just referring to that, so that the witness will have it in mind when he moves to strike out.

Mr. GRAHAM. Then it appears that the amendment suggested in section 8 should be withdrawn.

Mr. PIERCE. Yes.

Mr. GRAHAM. And the words "other property" should be restored?

Mr. PIERCE. Yes. In explanation of that I had only thought of "other property" in connection with the initial development, but I can see that if at the end of 50 years the Government should exercise its rights to take over the entire development, there would be other property, so that the words "and other property" should be left in.

Now, referring to that part of section 8 [reading]:

> That for the occupancy and use of lands and other property of the United States permitted under this act the Secretary of the Interior is authorized to fix in the lease and collect charges or rentals for all power developed and sold or used by the lessee for any purpose other than the operation of the plant—

I have not inserted any amendment, but I have noted this in the margin:

> It is suggested that the Federal tax, if any is imposed, should be made a definite amount.

I am only suggesting this with the thought of making the bill more direct, so that capital, looking ahead through the 50 years during which it is to operate may know as definitely as possible what it may expect. I do not think any sliding scale of charges is going to be satisfactory. I do not believe money can be raised for development purposes unless the banker and the investor knows pretty nearly what tax he will have to pay. So I suggest we make this bill as definite as possible.

In most countries of Europe they make a straight charge of 25 cents per horsepower, not on the amount of horsepower that is developed but on the amount of horsepower used per annum. In April of each year the water-power company must pay to the Government the equivalent in our money of 25 cents per horsepower for the horsepower used during the year previous. And there are no other charges by the Government on the water power developed. I wish that there might be no Federal tax placed on the development of water power, because I think that in that way the public would receive the greatest benefit through low rates.

If we are going to establish the nitrate of lime industry in this country we can not charge over 25 cents per horsepower. In Norway and other Scandinavian countries water powers generally can be developed cheaper than in this country. Labor is cheaper, ocean

freight is cheap, there is no import duty into the United States on nitrate of lime, and if the Federal tax is made more than 25 cents it will not be possible to establish the industry here. It will not be possible for the Federal Government to obtain any considerable revenue out of the development of water powers, and if they attempt it the water powers will remain undeveloped.

Mr. RAKER. I wonder if the question here would be objected to by the committee. Have you taken into consideration, right in this connection, the dual ownership of the land and of the water, as to the Government charge that could be made, if any, for the use of the land over which this water runs? Here, for instance, are private streams which are not now navigable streams, where the land is owned on one side by the Government and on the other side by a private individual, and the water is owned by the private individual—or the use of it—and the land either on one side or on both sides is owned by the Government. How would you adjust that water? Would you make any distinction?

Mr. PIERCE. I think it is fair for the Government to have a fair value for any land that they own alongside the stream where the water power is to be developed just the same as any other owner of land.

Mr. RAKER. The point I was driving at is, how would you distinguish between the two ownerships; what proportion would you give to the owner of the land, for instance; what proportion to the water?

Mr. PIERCE. I would not give any to the water.

Mr. RAKER. Notwithstanding that the water may be worth a thousand times as much as the land is, and the water belonged to the people of the State, you would not allow the people of the State to collect anything for the use of the water, but you would let the Government charge for the use of its land this incalculable value?

Mr. PIERCE. To my mind the waters of our streams, the same as the air we breathe, belongs to all the people, and I think that no charge should be made for the use of the water in the development of water power.

Mr. RAKER. Now, let me bring that out. If the land should be valued, say, at $100,000 and the water at $1,000,000, in the charge for the use of that land would you take into consideration the value of the water, $1,000,000 worth?

Mr. PIERCE. No; I would not consider the water as having any value.

Mr. RAKER. You would simply estimate the charge upon the value of the land and not take into consideration in the royalty or the charge, the value of the water?

Mr. PIERCE. No.

Mr. SINNOTT. The State would step in and protect private ownership of the water, if there was any.

Mr. PIERCE. I shall be through with my statement now in just a minute. I have only one or two more suggestions.

On page 6 I would strike out all of section 9, which reads:

> That the provisions of this act shall apply only to such States as have provided or which may provide a commission or other authority having full power to regulate rates and service of electrical power; and no lease or disposition of lands shall be made under this act in any State wherein such authority has not been provided by law.

I would allow water-power developments to go on in such States under the supervision of the Interior Department until such time as a public-service commission might be provided.

Mr. GRAHAM. Do you suggest any substitute for that section?

Mr. PIERCE. No, sir.

Mr. GRAHAM. Which section covers that?

Mr. PIERCE. Section 3.

Now, gentlemen, the only other suggestion I have is on page 8, where I would strike out all of section 14, which reads:

That all acts and parts of acts inconsistent herewith are hereby repealed.

I would do that because under the laws now in force the diversion of water from streams for irrigation purposes is allowed and permitted by the Government without any charge whatsoever and in perpetuity, though most of the irrigation projects can not afford to take permits on that basis, because the irrigation season is only five months of the year, and they can not afford to put money into the development of water power and use it only five months and let it stand still for the other seven months of the year.

In some cases the United States Government, when it develops power for pumping purposes in connection with irrigation, sells the power at very low prices during the winter while the power is not being used for irrigating purposes, while the private developer of power for irrigation purposes is not allowed to do so. But where small amounts of power are used for mining and other purposes and the investment is small, permits under the present laws might answer, and I suggest that they be permitted to remain in force.

This bill, with the amendments that I have suggested, will permit the development of water power by public-service corporations and States and municipalities, and therefore it would not interfere, I think, with existing laws.

I have a couple of little bottles which I will leave with the committee containing nitrate of lime. The sample of nitrate of lime was made in Europe and the cyanamide at Niagara Falls, Ontario.

Mr. KENT. I would like to hear from Pierce about how much of nitrate of lime is produced per horsepower in a year.

Mr. PIERCE. At the largest plant in Europe, located at Rjukan, Norway, uses 150,000 horsepower, and produces 80,000 tons of nitrate of lime per annum, and it may be interesting, Mr. Kent, for you to know that they had orders during 1912 for over 100,000 tons of nitrate of lime from California, and could only ship 5,000 tons on account of European demand.

Mr. KENT. It takes nearly 2 horsepower to produce a ton per year?

Mr. PIERCE. Yes; that is in the manufacture of nitrate of lime. In the manufacture of cyanamide, which is a different process, it takes 1 horsepower per ton.

Mr. KENT. What is the commercial value of nitrate of lime?

Mr. PIERCE. About $40 per ton.

Mr. KENT. What is the ordinary dose per acre? You say 300 pounds per acre?

Mr. PIERCE. Yes; about 300 pounds per acre is used in Europe.

Mr. KENT. Of course it varies under different conditions.

Mr. PIERCE. Yes.

Mr. STOUT. Is this the only function that this plant performs?

Mr. PIERCE. No indeed. Nitrate of lime is used also in the manufacture of explosives.

Mr. STOUT. I mean is this plant used entirely for the manufacture of this product?

Mr. PIERCE. Yes; entirely.

Mr. STOUT. So it consumes the entire energy of the plant, the manufacture of 80,000 tons of nitrate of lime per year?

Mr. PIERCE. Yes; but they are now developing at that point a further 150,000 horsepower, so that by the close of this year they will be using 300,000 horsepower and producing 150,000 tons of nitrate of lime per year.

Mr. TAYLOR of Colorado. When you put 300 pounds of this nitrate of lime upon an acre of land, how long a period does that last? How many years will it be before it will have to be renewed?

Mr. PIERCE. I think that in Europe they put it on each year. There is a common saying in Belgium that when you put 5 cents worth of fertilizer in the soil you get $1 out.

Mr. TAYLOR of Colorado. That would cost about $7.50 per acre per year for nitrate of lime.

Mr. KENT. It would be 2 cents a pound, and that would be $6 an acre.

Mr. PIERCE. I was reading yesterday a consular report on the use of fertilizer in the Canary Islands. They use $50 a year per acre of fertilizer, but they get enormous results.

Mr. CHURCH. We only use 29 pounds, you say?

Mr. PIERCE. Yes—we use 27 pounds. This question of the utilization of this fertilizer is very intimately connected with decreasing the cost of living through increasing the crop. It is being done in Europe and we have got to come to it here.

Mr. GRAHAM. Which is the richer in nitrogen?

Mr. PIERCE. Cyanamide. It is sold based on the percentage of nitrogen contents.

Mr. GRAHAM. Do you know how it sells?

Mr. PIERCE. I think there is a difference of only $2 or $3 a ton.

Mr. KENT. Is cyanamide more expensive, or nitrate of lime more expensive?

Mr. PIERCE. Nitrate of lime is less expensive because it contains a little less nitrogen.

Mr. GRAHAM. Do you know anything about the proportions, how much nitrogen there is in each?

Mr. PIERCE. My recollection is that there is about 26 or 27 per cent of nitrogen in the nitrate of lime and about 30 per cent in the cyanamide.

Mr. GRAHAM. And the cyanamide is more expensive?

Mr. PIERCE. Yes; it costs just proportionately more to make cyanamide. If it would interest the committee I might explain the process briefly.

Mr. GRAHAM. Well, it probably would not do us a great deal of good. There is no plant in the United States for making either of these products?

Mr. PIERCE. No; it is not made in the United States, but we import over $40,000,000 of nitrogenous products per annum. We imported something over $33,000,000 of Chilean nitrates into this coun-

try last year, all of which could have been produced here through fixation of the nitrogen of the air.

Mr. GRAHAM. Do you know from experience, from what you learned in Germany, or anywhere, as to how frequently the land needs this fertilizer?

Mr. PIERCE. They treat it each year, and keep it up to a high state of cultivation.

Mr. GRAHAM. At the price you have stated, 300 pounds to the acre, $40 a ton, that would be about $6 an acre. It would have to give tremendously great results to pay the cost of it and the cost of labor of putting it on the land annually.

Mr. PIERCE. It does. They do not use nitrate of lime wholly. Sometimes where they find that the soil is lacking in nitrogen to a marked extent they use nitrate of lime straight, but generally they mix it with potash and with phosphoric acid, and this combined fertilizer is cheaper than nitrate of lime.

Mr. GRAHAM. Do we not need phosphorus more for our land than we do nitrogen, because there is no known vegetable product which will restore phosphorus, but many vegetable products will restore nitrogen to the land.

Mr PIERCE. Of course, in the raising of different products in different soils, they use different quantities of phosphoric acid and of nitrate of lime.

Mr. GRAHAM. All clovers, all members of the pea and bean family, alfalfa and other plants, all collect and restore nitrogen to the soil.

Mr. PIERCE. Yes, they do; but very little.

Mr. GRAHAM. All of these plants take nitrogen out of the air and put it into the soil, but there is no known way, so far as vegetable growth is concerned, to restore phosphorus.

Mr. PIERCE. We have in this country practically inexhaustible supplies of phosphorus, but we have no supply of nitrogen.

Mr. GRAHAM. The air is full of it.

Mr. PIERCE. I know, but while clover and peas and alfalfa will absorb a limited amount of it, the trees and all other shrubs and plant life do not absorb one particle.

Mr. RAKER. Do I understand your view of the bill that it should apply solely to those companies in States that are under the utilities commissions? Now, whether it is a corporation, a municipality, or an individual subject to public use, it would not make any difference would it?

Mr. PIERCE. It would not make any difference, so long as the individual would come under the regulations of the public-service commission.

Mr. RAKER. If a corporation is performing a public duty it becomes a public-service corporation from that very fact.

Mr. PIERCE. Yes.

Mr. RAKER. And an individual owning a plant and furnishing electrical power to the public immediately becomes under the public-service commission.

Mr. PIERCE. I am not a lawyer and I can not answer that question from a legal standpoint.

Mr. RAKER. Very well, then if it does, if that is the fact, then you would be in favor of giving the individual the same right under this bill as the corporation or the municipality?

Mr. PIERCE. Yes; as long as he comes under the regulations.

Mr. RAKER. If the same law applies to him?

Mr. PIERCE. Yes.

Mr. RAKER. Your idea is that this bill should apply to plants that are only used for the public?

Mr. PIERCE. Yes.

Mr. RAKER. Now, all those that are not used for public purposes—for instance, the farmer, the manufacturer for his own use, your view is that he should remain under the law as it exists to-day, or amended to make it applicable to him?

Mr. PIERCE. Well, the control of 99 per cent of the power used would come under this bill.

Mr. RAKER. Whether it does or not, if a man wants to establish a plant for his own mill, his gristmill, or any kind of a plant that he may have—his mine, the mill at the mine—you want him to have the same opportunities that he has to-day?

Mr. PIERCE. Yes; or if he wishes to become a public-service corporation he can secure the benefits accruing from this measure.

Mr. RAKER. I am assuming he is not to become a public-service corporation.

Mr. PIERCE. Yes.

Mr. RAKER. And that is your idea in eliminating the last section of this bill, so that he may go on just as he does now and develop electricity and use it for his own power for irrigation or otherwise, for himself?

Mr. PIERCE. Yes.

Mr. KENT. Mr. Chairman, I would like to ask Mr. Pierce a question there. We had a great deal of discussion in the committee by former Secretary of the Interior Fisher as to the need of flexibility of management in different localities under varying conditions. It seems to me that in this bill you have tried to eliminate that flexibility to a certain extent and make the law more uniform. Is that your idea?

Mr. PIERCE. Yes; that is my idea.

Mr. KENT. It is your idea that this flexibility that Mr. Fisher spoke of is not necessary to the extent that it is provided in this first draft?

Mr. PIERCE. It is not necessary.

Mr. KENT. Another proposition I would like to speak to you about is at the bottom of page 3, section 5. The matter of actual cost, in my opinion, has no bearing whatever on the question of fair valuation, and so on, on the succeeding page. The idea there, as I understand it, of the people who drafted the bill, was to provide that in consideration of these corporations or individuals getting these privileges from the Government, the Government retaining the right to take them over under fair conditions at the expiration of the time, these people should not claim what we might call unearned increment or the enhanced value of their rights of way. We have already the proposition, of course, in the railroads. It is very doubtful, if we took the railroads and fixed the entire valuation of their rights of way, whether we could charge as low rates as they are charging now. We might have to charge higher rates than the rates charged to-day. It was the intent of this bill to provide against that part of the corporation's profit, which might be against public in-

terest at the end of the grant. Now what is your view of that general proposition?

Mr. PIERCE. Well, it seems to me that the actual cost would be perhaps more dangerous than the words "fair value," because the actual cost might have accumulated to far more than the fair value at the end of 50 years.

Mr. KENT. This refers to actual cost of rights of way, water rights, and interest therein. It does not refer to the structures, or fixtures—all those things that are naturally subject to fair valuation at the expiration of the period. Nobody would for a moment object to a corporation, if its property is taken over, receiving a fair valuation on that at the expiration of the time; but the corporation would be more or less a creature of the Government and gets its priviliges of the Government, and would it be entitled to make that extra additional earning and add it to its legitimate business in the event that the Government wanted to take it over?

Mr. PIERCE. It would be simply a question, so far as the land goes, of whether the appreciated value of the land should be paid for in addition to its actual cost.

Mr. KENT. It is your view that it should?

Mr. PIERCE. I am not at all sure but that in consideration of a 50-year permit the company could well afford to turn over that part of its property it had originally received from the Government at its actual cost.

Mr. TAYLOR of Colorado. Without any claim for increase?

Mr. PIERCE. Yes.

Mr. GRAHAM. Did you think of that element in preparing your amendments?

Mr. PIERCE. No; but as Mr. Kent brings out the subject, it seems to me it is all right.

Mr. GRAHAM. When the plant was put there, the land itself might be really of little value, but the putting of the plant there might be the nucleus for a village, or a town, or even a city, and in this way the value of the land might be greatly enhanced.

Mr. KENT. In that connection—just one more remark—in that connection, we find in line 24, page 3, "the fair value" substituted for "actual value" of rights of way, water rights, land, and interests. Do you believe that that considers in there the water rights, other than those contributed by the Government? In other words, if the private corporation goes in and is forced to buy water rights from private interests, they certainly should be reimbursed for those; but now, on the other hand, if they go in and acquire water rights from the Government, the Government ought not to pay them for what the Government has already paid by using it for 50 years.

Mr. PIERCE. No.

Mr. KENT. And would it not clear that up to put in that language?

Mr. JOHNSON. What would be the result if the water belongs to the State?

Mr. KENT. Either the State or the National Government. The State or the Government would not want to be paying for things that did not cost the company anything.

Mr. PIERCE. That clause does provide that such fair valuation shall not include or be affected by the value of the franchise. It would include, would it not, the original rights granted?

Mr. KENT. Well, the franchise rights, and the right as a going concern is another matter.

Mr. PIERCE. That matter should be clearly stated in the bill.

Mr. RAKER. Let me call your attention right in this connection—under this section 5 as I read it, it does not apply now to the right obtained from the Government to use Government land only, but it includes the rights of way that are purchased from private individuals or the State, as well as water rights acquired from the States as private individuals and lands that may be acquired from private individuals and the interest it could have thus acquired. Would it be your idea that if the Government took over this property, that the individual or the company should only get what it originally paid for these rights of way and water rights and land and interests that it acquired otherwise than from the Government? This is a very broad provision here, and it does not relate at all exclusively to land, but what it has obtained from the Government by the lease or grant.

Mr. PIERCE. It would seem only fair to the individual or the owner of the property that he should have its fair value at the time it was taken over by the Government.

Mr. RAKER. In other words, supposing a man goes onto a piece of land and leases it from the Government for 50 years. Suppose he gets 50 acres, and in addition to that, in this same plant he has another 50 acres which he has bought from an individual. He has water rights that he has acquired as an individual and he has rights of way that he has acquired. Now, these rights of way and property and water rights acquired from others are in connection with this lease that is obtained from the Government, and you would not give him any increase in the value of his land and rights of way and water rights and interests that he has acquired outside of the mere lease from the Government, would you?

Mr. PIERCE. In considering that question it might be—and very likely would be—that he would only use a very small portion of Government land, and the great majority would be land that he would purchase from private individuals.

Mr. RAKER. And rights of way the same?

Mr. PIERCE. Yes.

Mr. RAKER. And water rights the same?

Mr. PIERCE. Yes.

Mr. RAKER. Then, provided this bill puts in that condition, having once obtained a Government lease, the Government can take over the whole plant at first cost?

The CHAIRMAN. Now, if you will pardon me, there—let me direct your attention to lines 21 and 22, wherein it provides that it is only the property which may be acquired by any lessee acting under the provisions of this act, so that lands purchased from outsiders and other parties would not be secured under this act, and would hence have no application to the resale to the Government.

Mr. RAKER. Is that within the meaning of the provision?

The CHAIRMAN. Undoubtedly.

Mr. RAKER. The meaning of the provision, then, is that the Government would take over just the interests that it leased, leaving him up in the air on the other.

Mr. TAYLOR of Colorado. The Government could not forfeit any more than it gave. The Government can not confiscate it or take more than it gave.

The CHAIRMAN. Lines 21 and 22 you will see limits it to properties which may be acquired by any lessee acting under the provisions of this act.

Mr. RAKER. Let us see whether it does or not. It is clear that you are not granting or attempting to grant any water right under this bill; is that so?

Mr. PIERCE. Yes.

Mr. RAKER. In this case the bill provides for the taking over of water rights, and the water rights might be acquired from other sources.

Mr. BROWN. Would it on a navigable stream?

Mr. RAKER. This bill does not apply to navigable streams, as I understand it. That bill is before another committee altogether. Would not that be the result of it? The chairman has stated a matter that I thought of when I asked the question, and I wondered whether he had gone into that subject so as to give us some light upon it.

Mr. PIERCE. I had thought that this clause 5 would give the Government the right to take over not only the particular portion of the land that was Government land, but also all other lands and properties used in the development of power; because what good would it be to the Government to take over one wing of a dam and not take the other? On one shore it might be built on Government land, while, perhaps, on the other shore it might be built on private property.

Mr. RAKER. That is the point that I am asking about. Suppose that man obtained a lease of 50 acres from the Government; in connection with that lease from the Government he has obtained by purchase 100 acres; that he has obtained rights of way that cost $100,000; he has obtained water rights very valuable, indeed. Now, is it your view that under this bill at the end of the expiration of 50 years the Government could take over the entire plant?

Mr. PIERCE. Yes.

Mr. RAKER. Now, then, if it takes over the entire plant, it would include the privately owned land, the privately owned water rights, and privately owned water ditches, and what compensaton would you say the man should have for those rights?

Mr. PIERCE. I think he should have its fair value—whatever it is worth at that time.

Mr. SINNOTT. Will you let me ask a question there? I would like to have Mr. Pierce explain what he means by that term, "fair value," and whether or not, in his opinion, there is a distinction between fair value and market value?

Mr. PIERCE. "Fair value" is the phrase used by the courts in deciding as to the values of property. And I take it "fair value" means its fair value at the time when it is purchased, less depreciation, if it is physical property.

Mr. GRAHAM. My recollection does not agree with yours as to the phraseology used by the courts. "Cash market value" is the basis in condemnation cases.

Mr. RAKER. Now, carrying it further, just to bring out the idea I have in mind, suppose after the plant had been established for 50 years a large and prosperous community had been created; the lands that the private individual had enhanced a hundredfold; the ditches had enhanced one hundredfold or twentyfold, and the water rights had enhanced twentyfold. Would you say that the Government ought to take over now this property at its original cost?

Mr. PIERCE. No.

Mr. RAKER. Or should he be given the same market value of his land, his water rights, and his ditch rights that he had owned and used in connection with the Government leased land?

Mr. PIERCE. I think he should have its fair value at the time, whatever that would be.

Mr. RAKER. Then is it your idea that the Government should take over all of his plant, whether he has obtained it of the Government or in other ways?

Mr. PIERCE. Yes.

Mr. RAKER. Then, by virtue of having obtained a right from the Government, the Government should then take all of his property at the end of 50 years?

Mr. PIERCE. Yes; it would be no good to him, and the Government should have it all.

The CHAIRMAN. That might be as important to the lessee as to the Government.

Mr. RAKER. I am assuming that. That being the fact, which we generally agree upon, ought not the bill to make some provision for that definitely, so there could be no misunderstanding?

Mr. PIERCE. I think it should. Of course it should.

Mr. RAKER. Or if not that, then limit the bill solely to that which is leased and not to any rights of way, land or water rights that may have been obtained by the party or corporation individually from private sources.

Mr. PIERCE. I do not think it could be limited, because, as I say, a portion would not be any good to the lessee and a portion no good to the Government. The one who is to operate must have it all.

Mr. RAKER. How would you differentiate between that which he obtained from the Government by lease and that which he obtained from other sources?

Mr. PIERCE. The part he has obtained from the Government under lease should be turned over without any charge. If no charge except rental has been made he should not expect anything for that at all.

Mr. GRAHAM. If we put a provision in the lease and he accepts it, that when it is turned back to the Government, if ever, it shall come back on the basis of its value at the time he took it, that provision in the lease would be good, but if he has other land that he did not get from the Government, and there is an unearned increment there of twentyfold or one hundredfold, the Government can not, under the law as it is now, control that.

Mr. RAKER. But this bill as originally drafted says:

Upon condition that it shall pay, before taking possession, first, the actual cost of rights of way, water rights, land and interests therein purchased and used by the lessee in generation and distribution of electrical energy.

Now, just a little further illustration. Suppose a man has put his plant upon land adjoining the land which he leased from the Government. The plant costs only a small amount, say, but it has enhanced in value by virtue of surrounding conditions to half a million dollars. Would you allow him the value of the land at the time of the condemnation, with the increased value, or would you say that he should only have what he originally paid for it when he purchased it. when he took out the lease from the Government?

Mr. PIERCE. That is answered in clause 5 by the part of the section which provides for the taking over of the structures, etc. The bill as originally framed reads:

First, the actual cost of rights of way, water rights, land, and interests therein purchased and used by the lessee in the generation and distribution of electrical energy under the lease, and, second, the reasonable valuation of all other property taken over, including structures and fixtures acquired, erected, or placed upon the land and included in the generation or distribution plant, and which are dependent as hereinabove set forth, such reasonable values to be determined by mutual agreement between the Secretary of the Interior and the lessees, and, in case they can not agree, by proceedings instituted in the United States court for that purpose: *Provided*, That such resanoble valuation shall not include or be affected by the value of the franchise or good will.

Mr. RAKER. But in going over this section it confines these improvements to lands leased, and I am asking you if that would be fair; whether or not it ought to include all the plant and all the fixtures of the plant and all the appliances—the entire plant?

Mr. PIERCE. Absolutely.

Mr. RAKER. In other words, if it had a line 500 miles long, the Government should take over the whole thing?

Mr. PIERCE. They should, and if he had at the end of that line an electric power plant, they should take that, too, because of what good would it be to him?

Mr. RAKER (reading):

And all other property taken over, including structures and fixtures acquired, erected, or placed upon the lands.

Limiting it to the land and not taking any outside and beyond the land; and the idea is that if it does restrict it to the land leased, it ought to be that the entire plant should be taken over?

Mr. PIERCE. Yes.

The CHAIRMAN. Lines 19 and 20 read:

To take over the properties which are dependent, in whole or in part, for the usefulness or the continuance of the lease herein provided for, which may be acquired by any lessee acting under the provisions of this act.

I am referring back to the other page. I just wanted to get Mr. Pierce's attention to that, as to whether or not the plant once established, the whole plant should not be used as a whole?

Mr. PIERCE. I think that is the intent.

Mr. RAKER. And if the bill does not provide for it it ought to do it.

The CHAIRMAN. Yes; it does do that.

Mr. GRAHAM. I would like your view of the language in section 4, which reads:

That no lease issued under this act shall be assignable or transferable, and no sale or delivery of power to a distributing company shall be made, except upon the written consent of the Secretary of the Interior.

Now, you say that essentially, and make it read:

No lease issued under this act shall be assignable or transferable, except by mortgage issued for the bona fide purpose of financing the business, to any transferee not having the capacity of lessee as defined hereunder.

As prepared, it was essentially an antimonopoly provision; as you have changed it, it ceases altogether to be an antimonopoly provision and squares in the opposite direction. Now, what is your purpose or your thought in the change?

Mr. PIERCE. My thought and purpose is that the change in the preceding paragraph makes it an antimonopoly clause, a very plain one, and one that would very fully cover that case. On the same page, just above, in the third line, it reads:

That there shall be no physical combinations of plants or lines for the generation, distribution, and use of power or energy under this act or under leases given hereunder creating combinations, agreements, arrangements, or understanding, express or implied, to limit the output of electrical energy to restrain trade with foreign nations or between two or more States or within any one State, or to fix, maintain, or increase prices for electrical energy or service.

So that under that clause I do not think it makes a bit of difference in whose hands the development may rest.

Mr. GRAHAM. Would that be a limitation on the mortgagee; that is, as to who might be mortgagee under section 4?

Mr. PIERCE. No; I think not. If we put in the words "bona fide" there, we would have no question.

Mr. GRAHAM. But the owner of a competing plant might be a bona fide mortgagee, and as mortgagee he would exercise a great influence over the plant.

Mr. PIERCE. I believe in the bill as amended it would not make a particle of difference how large the plant might be or how many plants might be united.

Mr. GRAHAM. A man who was not qualified to be a lessee under this provision might become a mortgagee, and while, if you follow the letter of the law, the mortgagee would have nothing to do but collect his interest or take forfeiture on the plant if it became necessary, there is no provision here as to what he would do with it if he came into possession by foreclosure proceedings; and, apart from the letter of the law, we know the mortgagee exercises a great control over the property mortgaged.

I wanted to know whether you had thought of it in that light and whether you considered it from the antimonopoly viewpoint.

Mr. PIERCE. Yes; I have considered it from the antimonopoly viewpoint, and I have tried to put into the bill supervisory powers which would make it impossible to create a monopoly under the provisions of this act.

Mr. RAKER. Have you read into the bill this language: "*Provided*, That the lessee could mortgage"? And if it is not in the bill, ought it not to be in the bill?

Mr. PIERCE. Is it not in this language in section 4?

Mr. RAKER. Would the development proceed as it ought to unless the lessee were permitted to mortgage?

Mr. PIERCE. Is it not in section 4 as amended?

Mr. RAKER. By you?

Mr. PIERCE. Yes.

Mr. RAKER. Ought not that to be in there?

Mr. PIERCE. Yes.

Mr. RAKER. Would the development progress as it ought to unless the lessee were permitted to mortgage?

Mr. PIERCE. No; because it is necessary to mortgage nearly all power developments.

Mr. BROWN. It seems to me that the chief point here is this: That these properties must be financed, and a trust company or somebody must be made the mortgagee for the benefit of the bondholders, and therefore some such language as this should be put in: "Except by mortgage to any trustee acting solely in a fiduciary capacity." We might make it possible to raise money to develop these propositions and at the same time not get mixed up with these joint capital propositions. I am against any sort of monopoly, but I think it might be possible to put in a proviso which the committee could work out which would make it permissible at any time for any person having a lease to go to a trustee and assign that mortgage for the benefit of the creditors. Wouldn't that cover the point?

Mr. PIERCE. I should think so.

Mr. GRAHAM. Isn't the word in the proviso, on page 3, which claims (it does not say) that combinations would be possible provided there was no physical combination—that word "physical," as used in line 3 is extremely suggestive, "*Provided*, That there shall be no 'physical' combination of plants or lines for the generation, distribution, and use of power or energy under this act," etc. It all refers back to "physical combination."

Mr. PIERCE. We might strike that out.

Mr. GRAHAM. It certainly ought to go out if this is an antimonopoly provision, but I wanted now, principally, to get your idea.

Mr. PIERCE. My thought was to make that paragraph beginning: "*Provided*, That there shall be no physical combination," an antimonopoly clause.

Mr. GRAHAM. Taking those two now—that part of section 3 and all of section 4—it looks to me as though there might be an opportunity for monopoly.

Mr. KENT. This avoids the possibility of physical combinations, but at the same time it also involves the possibility of a financial combination.

Mr. GRAHAM. Very often physical combinations might be very desirable, so long as they did not amount to monopoly.

Mr. BROWN. I would like to ask Mr. Pierce a general question. Having in mind only the present plant for the development of hydroelectrical energy in the West generally, without any new developments or new projects being introduced, is it your opinion that the West is undeveloped or overdeveloped in the matter of plants operated for the distribution of electrical energy?

Mr. PIERCE. In some places that I know of it is overdeveloped. For instance, in the neighborhood of large cities I think there are developments in which they are not using all the power, but in those cases they could not sell that power at prices at which it could be used in the manufacture of nitrate of lime, etc.

Mr. RAKER. Have you any points in mind where overdevelopment exists now?

Mr. PIERCE. Yes; I think overdevelopment exists in the neighborhood of Portland. I think overdevelopment exists in the neighbor-

hood of Seattle—not very much, but there is a reasonable amount that is not used now, which they contemplate will be used as the city grows. They can not use that electrical power in electrochemical plants, because those plants can only be established where they can get very cheap power.

Mr. GRAHAM. Did you take into consideration the expectations that it would be very hard to overdevelop them?

Mr. PIERCE. Yes.

Mr. BROWN. On page 1, in line 9, you suggest an amendment to strike out the words "not longer than." What is the average length of issue of bonds on these development projects?

Mr. PIERCE. I am informed by friends in the banking business that of late years most of the issues are for 50 years, and in some cases 100 years.

Mr. BROWN. You think it desirous that no permits should be issued for less than that time?

Mr. PIERCE. Certainly not. I do not think it would be for the interest of the people, the lessee, or the Government. I think that 50 years is the least time in which a project may be properly developed in the hands of one corporation.

Mr. GRAHAM. Might I ask one question there? Your reason for that is a purely financial one—that is, in connection with the financing of the enterprise?

Mr. PIERCE. No; it is because if you should get, for instance, a 25-year permit, there would not be the incentive to go ahead and develop sufficient amounts of power to provide proper facilities for the future.

Mr. GRAHAM. That is the point I wanted to get.

Mr. BROWN. On page 2, after line 21, section 2, your amendment suggests that the lessee shall commence construction of the project within two years from the date of the lease. I wanted to ask you if in financing these projects that would not be a dangerous matter, because it occurs to me that a man might get a lease without having a dollar behind him, then he would have two years to run about and try to get his money. I wanted to ask you if the money could be raised with the prespects of getting the lease, or if it was necessary to have a lease and then have two years in which to see if he can finance it?

Mr. PIERCE. Well, you have got to do something prior to coming to the Secretary of the Interior for your lease. You have got to become a public-service corporation. You must get the rights necessary from the State before you can apply for a lease. I think that the Secretary of the Interior would not issue to a speculator or promoter a lease under this bill. He would make him submit his maps and specifications and make him show that he was the owner of the property and had the right from the State to undertake the work.

Mr. BROWN. You are thoroughly satisfied that there would not be any danger in that two-year proposition?

Mr. PIERCE. No, sir.

Mr. GRAHAM. Let me ask you one more question in connection with the 50-year period for giving more financial standing to the enterprise. It has been suggested to me that the Pacific Gas & Electric Co. has $57,000,000 worth of bonds running an average length of

20½ years. That would indicate that 50 years would not be necessary in order to make a financial inducement.

Mr. PIERCE. I have heard that a new 50 or 100 year blanket mortgage, has been recently issued by that company, and in that case sufficient bonds would be put aside to take care of the underlying mortgages as they come due.

Mr. GRAHAM. Have you accurate information on that subject?

Mr. PIERCE. No; but I think I am right, and I can readily find out, and will be glad to report to the committee later on, and will do so if you desire.

Mr. TAYLOR of Colorado. Mr. Pierce, if the Government of the United States owns land, which I guess it does, at some place bordering on navigable streams, there is no reason why this law should not apply to them, is there?

Mr. PIERCE. Well, I supposed it only applied to water powers in the public domain, aside from navigable streams.

Mr. TAYLOR of Colorado. If it does not, there is no reason why it should not, is there? As a matter of fact, there is no reason, in your judgment why this same kind of provision should not apply to the navigable streams anyhow, aside from the question as to whether or not this committee has authority to pass upon it? The same principle, you think, would be applicable to the navigable streams as to other streams?

Mr. PIERCE. I think so, except as to matters relating to navigation.

Mr. TAYLOR of Colorado. We bring to section 8, page 6, lines 5 and 6, where it says that the proceeds should be paid to the State within the boundaries of which the hydro-electric power or energy is developed and generated. How about States like Washington and Oregon, where the boundary is a stream, and between Nevada and Arizona, and Arizona and California? Should there not be a provision that the States should divide the proceeds?

Mr. PIERCE. Yes; I think so.

Mr. GRAHAM. I do not know about the cases you speak of, but it is not the invariable rule that the bed of the stream is the dividing line. For instance, the north bank of the Ohio River at low water is the boundary line between Illinois and Kentucky.

Mr. CHURCH. The center of the Columbia River is the boundary line between Oregon and Washington, both States having concurrent jurisdiction.

The CHAIRMAN. Mr. Pierce, I wanted to inquire a little about section 1, page 1. You have so modified section 1, page 1, as to make it mandatory upon the Secretary to grant these leases.

Mr. PIERCE. Yes.

The CHAIRMAN. Do you not think that is rather a dangerous thing to do?

Mr. PIERCE. No, Mr. Chairman; I think that this bill should be made more direct, and I can see no reason why the Secretary of the Interior should not be authorized and directed, under the provisions of the act to grant to any State, municipality, public-service corporation, or other agent of the State, the right to go ahead and develop water power. I think we should offer every incentive and inducement that we can think of that reasonably can be made. I think this bill should make people who have ambition or money

feel safe to go ahead and develop water powers, and Congress should make the lease as attractive as possible.

The CHAIRMAN. Supposing that several water-power companies should come together—as they probably would be able to hold themselves together—and get together their finances so that they could proceed with greater rapidity, then they go to the Secretary and under this mandatory provision they could force the Secretary to grant them a lease to the exclusion of other people. Might you not make a hardship there?

Mr. PIERCE. I think any money that came into our Western States from any part of the world for investment would be very welcome.

The CHAIRMAN. That does not quite answer the question. In the event that a company should come in and demand to have a lease on a certain property in any State, and it was known to the Secretary that the water there was needed for irrigation purposes and should be retained there for those purposes, and he should think that the local community had an interest in it, do you not think that your amendment is rather too restrictive and too mandatory on the Secretary in that regard?

Mr. PIERCE. No; because before coming to the Secretary of the Interior, he must qualify in the State. He must go to the State and take out a charter in the State.

The CHAIRMAN. That is according to your amendment?

Mr. PIERCE. Yes.

The CHAIRMAN. I hardly think the committee will be able to adopt your view of excluding the person. As this now stands, you would force them to be corporations, and I have not yet been able to discover your reasons for it.

Mr. PIERCE. My only desire is to place everyone developing water powers under the regulations of the authorities, either Federal or State.

The CHAIRMAN. Is there any reason why a person engaged in a public utility of that sort should not be subject to the rate-fixing body, whether local or National?

Mr. PIERCE. If he is legally, then I am satisfied; but I am not a lawyer and I can not answer the question from a legal standpoint.

Mr. KENT. Would not that be a part of the cession, that the man would have to abide by these sections?

The CHAIRMAN. Yes; think so.

Mr. TAYLOR of Colorado. Ought not the corporation to be organized under the laws of the State in which the power is generated?

Mr. PIERCE. I think it should.

Mr. TAYLOR of Colorado. We ought not to have, for instance, New Jersey corporations organized all over the United States.

Mr. PIERCE. I do not believe in that. I think they should be organized in the State in which they operate.

Mr. CHURCH. Then you would deprive the right of removal to the Federal court.

Mr. JOHNSON. Where it is mandatory on the Secretary, one corporation might get a great number of leases, might it not, in the State and thereby establish some sort of a combination?

Mr. PIERCE. I would so regulate the corporations operating water-power plants that it would not matter.

Mr. SINNOTT. Had you thought of this feature: That a number of the Western States are already collecting rentals from water-power companies under the name of taxes? Oregon does that, and should there not be some adjustment of terms in this bill to solve that proposition?

Mr. PIERCE. Well, it would seem to me that the right of taxation should be left to the State. If they can see their way to tax water power, let them do it. If they prevent the development of water powers through taxation and find that a neighboring State is getting manufacturing industries through not taxing, they will repeal the tax. I think that is a matter that could be left to the State to solve.

The CHAIRMAN. It is not your thought that the State has any power to tax the power of the Government?

Mr. PIERCE. No.

Mr. SINNOTT. In my State they tax all development of water power.

The CHAIRMAN. Do they tax the Government?

Mr. SINNOTT. They charge so much per horsepower developed.

The CHAIRMAN. This bill has nothing to do with private lands. This bill seeks to charge for water power developed on Government lands as distinct from the use of the State.

Mr. SINNOTT. The State of Oregon is doing the same thing.

The CHAIRMAN. Not on public lands?

Mr. SINNOTT. Yes; wherever water power is developed.

The CHAIRMAN. They certainly have no power to tax property of the Federal Government, and if they are doing it, it would be undoubtedly unlawful as soon as it was attacked.

Mr. RAKER. Lots of the public lands we can tax in our States and have been doing it for years.

Mr. JOHNSON. We can tax for the use of the water.

The CHAIRMAN. I want to call your attention, now, Mr. Pierce. to section 5. Section 5, as the committee will readily observe, is the section which provides for the taking over of the property after the end of the period, whatever that may be. Your thought is that the lessee should have the fair value of the property, including all increase or franchises, rights of way, and everything else during the entire time?

Mr. PIERCE. Not franchises.

The CHAIRMAN. Not franchises?

Mr. PIERCE. No, sir.

The CHAIRMAN. What is that? What is your position? I want to get it again, as that will be a turning point in this legislation.

Mr. PIERCE. I do not think that lessee, in the event of the Government taking over the property at the end of 50 years, should receive anything for the value of his franchises or for the good will of his business; but I think that if he purchases the Government land outright it should be returned to the Government at absolute cost to him, but that all property be acquired from the private parties should be taken at a fair compensation.

The CHAIRMAN. There should be a severance valuation of the extent of the leased period, so everything material from the Government should be returned. You merely lease that, and of course the increase in value would necessarily return to the Government?

Mr. PIERCE. Yes.

The CHAIRMAN. So that your proposition, boiled down, is that everything connected with the land that you have acquired ownership of—rights of way, etc.—should be taken at its fair value at the time of the expiration of the lease.

Mr. PIERCE. Yes, sir.

The CHAIRMAN. So that if the property had grown to an enormous figure you would not be willing to let the Government have the benefit of that, but you think the lessee should have the benefit of it?

Mr. PIERCE. I think the lessee should have the benefit of it, but not including good will—nothing for the intangible good will—we should pay him for the actual value of his property. If the land on which he put up his power house had increased in value, he should have the appreciated value, but nothing for his good will.

The CHAIRMAN. You realize the committee would have to be very careful right on this point. Otherwise in the leasing of these dam sites to the power companies there might be improvements, and might be growth and development to such an extent that it would amount to a perpetual grant, so much so that the Government could not take it back, and probably in that event no leasing bill can be passed, and I think the Congress will undoubtedly scrutinize very closely the proposition of allowing what might be termed the "inherent increment" against the Federal Government. I think it will be the will of the Congress to adopt the policy of this committee bill, which seeks to let the Federal Government have the advantage of that proposition. I want to get your position clear on it.

Mr. PIERCE. Of course, Mr. Chairman, I would only expect the Government would take over the property necessary to the power development, and to the continuation of the operation of the power development.

The CHAIRMAN. As to that, I am in agreement with your proposition of a few moments ago, that the Government should take it all over or none, because if it took from them all the things, and even the other would be disastrous to the lessee.

Are there any other inquiries to make of Mr. Pierce? If not, we will hear Mr. Willcox next.

The CHAIRMAN. Mr. Willcox, give your full name, address, and business to the stenographer.

STATEMENT OF OSCAR B. WILLCOX, NEW YORK, N. Y.

Mr. WILLCOX. Mr. Chairman, and members of the committee, I am one of the vice presidents of the W. P. Boubright (Inc.), of 14 Wall Street, New York. That firm is engaged in business ordinarily known as investment banking; that is, it is a merchant in securities. It is not a banker in the sense that it is a banker of deposits and discount. It buys and sells securities, and a little later I will endeavor to explain the relation of the bankers to the hydro-electric or other electric enterprises. I have the advantage of having for a number of years practiced law in Colorado, and in that way I became familiar with laws relating to water powers, and the public lands more or less intimately, and I also became more or less acquainted with the problems which confronted the locator, promoter, and operator of

water powers, both in private lands, on public lands, privately and as public utilities.

I come here, may I say, not representing any interest of my own or my firm's, or any other interest, but voluntarily, without employment or compensation, solely because it was suggested that this committee would be willing to hear and would like to hear those who are familiar with this subject generally, and particularly from somebody who knows this subject from the standpoint of the banker, and what are known as the "banking interests."

The subject has so many phases, Mr. Chairman, that very often we are in danger of not being able to "see the woods because of the trees." We get our attention concentrated on some very important details, to be sure, and we forget the relations of those details to the whole; we forget the aspect of the whole in its relation to other things. Some confusion has followed in the minds of those who heard ex-Secretary Fisher on one or two points, and in order that we may have before us a few of the fundamentals on which many of these questions revolve, I want to comment briefly on some of the statements made by the ex-Secretary. He commented on the Chandler-Dunbar case, and by courtesy of a member of the committee I have had an opportunity to reexamine the opinion of the Supreme Court in that case, which is now printed as Senate Document No. 51, Sixty-third Congress, first session. That case did not involve nonnavigable streams; it involved solely navigable streams. It did not involve the rights or operations of the Federal Government, excepting the right of the Federal Government to take the property of a riparian owner on a navigable stream. I may have been mistaken in understanding the Secretary to say that that case is authority for the proposition that if Congress declared a stream navigable it is navigable, regardless of the facts as they exist upon the stream itself. As a matter of fact, the opinion of the Supreme Court did not touch that question. The court says, and I read you from the opinion very briefly (reading):

> This title of the owner of fast land upon the shore of a navigable river to the bed of the river is at best a qualified one. It is a title which inheres in the ownership of the shore and, unless reserved or excluded by implication, passed with it as a shadow follows a substance, although capable of distinct ownership. It is subordinate to the public right of navigation, and however helpful in protecting the owner against the acts of third parties, is of no avail against the exercise of the great and absolute power of Congress over the improvement of navigable rivers. That power of use and control comes from the power to regulate commerce between the States and with foreign nations. It includes navigation, and subjects every navigable river to the control of Congress. All means having some positive relation to the end in view which are not forbidden by some other provision of the Constitution are admissible. If, on the judgment of Congress, the use of the bottom of the river is proper for the purpose of placing therein structures in aid of navigation, it is not thereby taking private property for a public use, for the owner's title was in its very nature subject to that use in the interest of public navigation.

This is the kernel of this decision, namely, that if a stream is navigable—and that is absolutely the fundamental condition precedent—then Congress may decide what is necessary in connection with the navigability of that stream; may prevent interferences by other parties or may construct or do what it pleases in aid of navi-

gation. The court cites several cases, and again the court says (reading):

So unfettered is this control of Congress over the navigable streams of the country that its judgment as to whether a construction in or over such a river is or is not an obstacle and a hindrance to navigation is conclusive. Such judgment and determination is the exercise of legislative power in respect of a subject wholly within its control.

That, I think, is the sentence on which the ex-Secretary based his statement, that this cleared up all questions of the rights of the Federal Government and the State government as to the nonnavigable streams and lands on nonnavigable streams and the beds of nonnavigable streams and the waters of nonnavigable streams. In my opinion—and it is not a matter of construction, it is a matter of clear language of the statutes—the only question decided by this case in that connection is that the Federal Government has a limited power in connection with navigable streams; it decides nothing in connection with nonnavigable streams.

Mr. GRAHAM. That involves at the outset an understanding of the meaning of the word "navigable." What is your definition of that word?

Mr. WILLCOX. Mr. Graham, I should hesitate to define "navigable streams," in view of the difficulties the courts have had in that connection. I am told that the courts of the different States vary greatly. In view of the customary navigation within the limits of the different States, I do not know that I have in mind any definition given by the Federal courts or the courts of the States.

Mr. GRAHAM. Would you accept the definition to the effect that any stream which will float a merchantable log at any season of the year is a navigable stream?

Mr. WILLCOX. I do not think I would be willing to accept that definition in view of the Constitution of the United States.

Mr. GRAHAM. I think you will have to accept that.

Mr. WILLCOX. I know they use that definition in Missouri.

Mr. RAKER. California depends upon the State legislature. What the State legislature says is navigable is navigable, and what the legislature says is not navigable is not navigable.

Mr. WILLCOX. I think, however, that is not essential to the determination of the question before us here.

Mr. RAKER. Not at all.

Mr. WILLCOX. Another statement made by the ex-Secretary, if I understand him rightly, was that it had been decided that the Federal Government had the absolute control of waters in navigable streams, and that it had been decided that the Federal Government had the absolute power for all purposes, as a sovereign over its public lands in the arid States. I may have misunderstood the Secretary, because that is not my understanding of the law, as it has been determined in a long series of cases, running back to the earliest exploitation of the West, back perhaps to 1840 or thereabouts, possibly earlier than that and long prior to the adoption of the act of 1866. It is well known that the common law has not been adopted in all of the arid States either in whole or in part, and in other States—California, Washington, and I think Montana and perhaps Oregon—it has been modified to a certain extent, and riparian rights still exist to a certain extent. It is held there that the Federal Govern-

ment, as a proprietor of its lands, may as a proprietor maintain and grant the rights of riparian owner. The other States—Idaho, California, Utah, Nevada, and the others similarly situated, the courts of the States themselves, and of the Territories, when there were Territories—Arizona, New Mexico, Nevada, and Colorado—all held that the common law has never been adopted in those States. It never existed in those States nor did the rights of riparian owners, as they exist in the common law of England, ever exist in those States; it was impossible that they should, because of difference in local conditions between the arid countries and the countries in England, where the common law had its origin and development. Those decisions of the local courts have been maintained and confirmed by the decisions of the Supreme Court of the United States in a long series of cases.

I do not imagine it will be within the purview of this hearing to examine those subjects in detail. With the permission of the committee, I would like very much to file a brief, which was not prepared for the purpose of this hearing, but was prepared in view of the resolution adopted by the conference of western governers, held in April of this year at Denver, where among other things it was resolved (reading):

> We maintain the waters of a State belong to the people of the State and that the State should be left free to develop water-power possibilities and receive fully the revenues and other benefits derived from said developments.

I would only refer with permission of the commission to one or two of the decisions of the Supreme Court of the United States.

Mr. RAKER. May that brief become a part of the hearing?

The CHAIRMAN. I suppose it will come along as a pamphlet and that we had not better incumber the record with it. The proceedings of those conferences are printed every year in documents.

Mr. RAKER. This part is constructive matter. I think we ought to have the decisions inserted in the record.

The CHAIRMAN. What was it that you desired to put in?

Mr. WILLCOX. I offered the brief. It is for the committee to say what will be done with the brief.

Mr. RAKER. To this brief he has given a good deal of work, and I think it ought to be printed as covering these authorities and comments of the court upon it.

The CHAIRMAN. Unless there is objection it might go into the record, and, at the same time, I would like to insert in the record a line of authorities that have been prepared on the same subject, the syllabus of each case, and let that appear right following the brief.

[The papers referred to will be found as Exhibits A and B, respectively, in the appendix.]

Mr. WILLCOX. If the committee please, the cases to which I refer determine two propositions, which are the ones essential in this connection. One is that the United States holds its lands not devoted to a public purpose, such as arsenals and the like, as a proprietor only, and does not hold them as sovereign, and therefore has no sovereign rights upon those lands, but only the right of other proprietors, subject to all the laws of the local States, excepting, of course, the rights to tax or to infringe upon the property of the United States as such proprietor.

The other is that it is for the States to determine what laws govern the use of the waters of the nonnavigable streams within those States, including those streams not nonnavigable streams and on public lands. Those are the two fundamental propositions which the committee has before it in consideration of the water powers on nonnavigable streams.

Mr. GRAHAM. Referring to the question which you raised awhile ago in connection with Secretary Fisher's statement: Suppose Congress would determine in a particular case to lease for water-power purposes lands on a stream in some of the mountain States that is public lands, and that from the practical point of view, from your point of view, from the ordinary point of view, that was a nonnavigable stream. Would the action of Congress make it a navigable stream, and how would that question be determined?

Mr. WILLCOX. If I understand Mr. Graham's question, it is, would the leasing of water power on a stream in the West, commonly understood to be nonnavigable by the Federal Government——

Mr. GRAHAM (interposing). By authority of Congress——

Mr. WILLCOX (continuing). Make that stream a navigable stream? I should say no.

Mr. GRAHAM. What would your remedy be?

Mr. WILLCOX. Let me say, if you please, Mr. Chairman, that I concede no authority in the Federal Government to lease water-power water on navigable streams or nonnavigable streams.

Mr. GRAHAM. How about leasing land adjoining it——

Mr. WILLCOX (interposing). That is another question from leasing water powers.

Mr. GRAHAM. For the purpose of developing water power?

Mr. WILLCOX. The question now is, Whether the action of the Federal Government, under the authority of Congress, in leasing the lands upon nonnavigable streams for power purposes, makes the stream a navigable stream?

Mr. GRAHAM. I limited the nonnavigability of it from your point of view, or from a general point of view, but the act of Congress authorizing lease of it merely indicated that from the congressional point of view it was a navigable stream.

Mr. WILLCOX. I think not. I think the question of whether a stream is navigable or nonnavigable is a question of fact to be determined properly in some proper tribunal, and not by Congress.

Mr. GRAHAM. You disagree sharply with Mr. Fisher that the action of Congress determines the fact?

Mr. WILLCOX. Absolutely.

Mr. GRAHAM. Regardless of physical conditions?

Mr. WILLCOX. Absolutely. He based his whole statement on the Chandler-Dunbar case, which determines nothing of the sort.

Mr. GRAHAM. What is the remedy? I think there is in the Chandler-Dunbar much which justifies what the Secretary says. I do not think that it is necessary to the decision of the case, but my recollection of the opinion is that they go very far in the direction of saying that it is entirely for the court to determine the question.

Mr. WILLCOX. I may have to appeal to the Chair to enforce the rule that was adopted, that the witness should finish his answer and then submit to questions.

Mr. GRAHAM. I beg your pardon, but I want your attention called to that point.

Mr. WILLCOX. May I beg that Mr. Graham will ask me these questions when we get through, so that we may have first the benefit of my statement, because I desire very much to have those questions asked and to discuss them?

Mr. GRAHAM. Very well.

Mr. WILLCOX. I want to refer to another question which Secretary Fisher discussed, and point out his view that the Federal Government should have control of water power, because of the permanence of the Federal Government, because of its main purposes, because of its wide viewpoint, the horizon of its views covering the whole country and the national good rather than the local interests, and he stated that you might rely upon the Federal Government not to infringe upon the rights of individuals, and also went so far as to say, if I understod him correctly, that we could also rely upon the integrity of the Federal Government not to cancel a revocable permit where private interests were involved.

It is interesting to note, as bearing upon the persistence or want of persistence, of the views of the ex-Secretary of the Interior, that he differs radically from the present Secretary. So that there is no continuity of views. It is also worthy to note that the administration changes every four years. Sometimes the party changes, and sometimes he is returned, but the administration is not continued, and does come to a full stop and a new start every four years, so that the persistence is entirely lacking in control. Whether or not Federal control is good, as to the good faith and reliance upon that good faith by those doing business with the Federal Government, and particularly with reference to water powers, I want to point out the fact with which I became familiar at the time, that on March 2, 1909, two days before Mr. Secretary Garfield went out of office, all of the then outstanding revocable permits under the act of February 15, 1901, were revoked, regardless of whether——

Mr. FINNEY. I think you are——

Mr. WILLCOX. I beg your pardon.

Mr. FINNEY. I think you are making an inaccurate statement there. There were about 20 or 30, I think; not all of the outstanding permits.

Mr. WILLCOX. Not all of them. I will correct my statement, and instead will say 20 or 30 of the outstanding permits were revoked, including a number on which actual construction had been begun, and a number on which very considerable sums had been expended, without any intimation in any case, so far as I know—this may be or may not be accurate—that there had been any violation of the terms of the permit or any question of public good or public right or public necessity involved, but solely because there had been a change in the policy.

The Secretary referred to the Great Falls Power Co. and to a permit which he had negotiated.

Mr. RAKER. Have you a list of those revocations there?

Mr. WILLCOX. I should be very glad to furnish you a list.

Mr. RAKER. And have it go into the record?

Mr. WILLCOX. I will be glad to read it into the record.

The CHAIRMAN. What is the question asked the witness?

Mr. WILLCOX. The question was whether a list be put into the record of the permits issued by the Secretary of the Interior and which were revoked March 2, 1909.

The CHAIRMAN. Do you desire to have those go into the record?

Mr. WILLCOX. I have no objections.

The CHAIRMAN. You desire to offer them?

Mr. WILLCOX. I offered them.

The CHAIRMAN. Unless there is objection, they will go into the record.

(The list of permits referred to will be found as Exhibit C in the appendix.)

Mr. WILLCOX. The Great Falls case—I comment upon this not merely to raise issue with the Secretary, but because it bears directly on this matter. The only law now interpreted by the Federal Government to promote the granting of a permit or lease for water power on nonnavigable streams is the act of February 15, 1901. The Secretary pointed out that he had concluded an agreement with the Great Falls Power Co. involving the Great Falls, and that it is afterwards said by Mr. Ryan and others that that was a very satisfactory agreement.

The only point I wish to call the committee's attention to is the fact that the agreement with the Great Falls Power Co. had nothing to do with any Government lands upon which were located a water power or water powers; that it had solely to do with transmission lines, and the lease or grant was made not under the act of February 15, 1901, relating to water powers, but under another act, the act of March 4, 1911, providing for the grants of rights of way for electric pole lines, etc., so that I wish to say this so that the committee may not be confused and believe that the Great Falls Power Co. accepted a lease revocable under the act of February 15, 1901, or were able to finance under any such lease; they were accepting a grant of 50 years, under a different act for a pole line in connection with that water power.

The Secretary also said one other thing that I want to refer to, and it is a matter of policy, perhaps, and that is this: As I recall, the Secretary said that he cared not what the law was which gave the Federal Government power to do any act; if the power existed he proposed to use it to the fullest extent to which it was required in his opinion for the public interest. That involves this: That an officer of the Government, in his discretion, shall determine what is the public interest, regardless of what Congress declares; in the second place, that an officer of the Government, having made up his mind on that subject, will use powers that were at his command which were granted for another purpose. That has been done time and time again in the Forestry Bureau and in the other departments of the Government. I comment on it for the reason that this committee, if it does not agree with that view of the right and discretion of the officers of the Government, must protect the Federal Government and the people affected in the language of this bill so that powers granted under this bill for the specific purpose and object may not be used for some other purposes by an officer of the Government, acting, perhaps, in very good faith, but upon his own decision as to what the public interests require.

I have referred very briefly to the laws of the arid States, and I want to call the attention of the committee to what they know so well, that in all of the Western States referred to—all arid States where the common law has not followed the old common law of England—the water is subject to appropriation, and that means usually that the water of the nonnavigable streams is subject to diversion and appropriation; that is, it may be taken out of the streams, conveyed away from the stream, and applied to any beneficial purpose, and the courts have been very wide in their determination of what is a beneficial purpose; it may be drainage, it may be irrigation, it may be placer mining for gold or other sorts of mining; it may be gold dredging; it may be driving a quartz or a grist mill, and it may be the development of the electrical power; but in the arid States, the laws with respect to water are entirely different from those in the Eastern States, and the fundamental difference is that in the East the riparian power has the right to use the water which runs by as it has been used to run by, while in the Western States the man who puts water to a beneficial use may appropriate it and divert it from the stream.

That right, as I have said before, is not different within lands owned by the Federal Government, through which nonnavigable streams flow, than on lands privately owned, and which, as I have said before, has been determined by the States locally and by the Supreme Court of the United States. I should like to ask next, what is a water-power site within the purview of this act? When we talk about water-power sites the picture that rises in the minds of some of us is a complete whole, one thing, a unit complete in itself. Now, a water-power site, Mr. Chairman, is water at a different level at one point from the level at another point—lands supporting the flowing of water, lands upon which the water from the higher levels may be diverted, and the difference in elevation utilized by dropping that water upon machinery; the other lands involved in the construction of dams, conduits, pipe lines, penstock, power house; and when we have that combination we have a water-power site.

Next, I want to call your attention to the fact that a water-power site is of no more use to the inhabitants of the United States than the canals on Mars unless the product of that water-power site is brought to the consumer, whatever that consumer may be, and that is done by transmission lines, substations, switchboards, distributing lines, meters, underground conduits.

That may give you some conception of what is a water-power company. It is a company which owns water rights, acquired not from the Federal Government but from the State; lands on which the water-power site is located, which may be acquired in part or wholly from the Federal Government, in part or wholly from private owners in fee, by lease or otherwise, and those lands may include storage reservoir and dam site for that reservoir; the lands covered by rights of way in running conduits or tunnels which are necessary to get the advantage of the drop, the lands for the power-house site. Then there must be rights of way from the point where the water power is generated to the point of its use, and in very few cases are those actual lands in actual history a matter of a mile or 2 miles. It is a

matter of 10 or 20 miles, and the distance runs in California from 250 to 300; in Colorado 200 miles, and in other States to equivalent distances. It is necessary that that company shall have a corporate existence, which can be secured openly from the State to operate the water power, to secure the lands necessary, and the rights of way and to distribute electric power, a corporate franchise; under that corporate franchise it must acquire, through rights of eminent domain or by purchase, rights of way, or so much of the land as is privately owned, or for so much of the land as is not secure in the Federal Government or the States, and from privately owned lands, over the roads of the county or the State, over farms, through villages, for its transmission lines. If it furnishes a city light for municipal or for private or domestic purposes, it must acquire a franchise from the city itself. It must then distribute this electricity through a network of wires, over poles, through conduits, through substations, changing the voltage from 110,000 down to perhaps 110 volts, to manufacturers, street car companies, to hotels, to apartment houses, to private residences, etc., for lighting, cooking, and driving elevators, grain-grinding mills, and other things of that sort.

And when that is all complete, Mr. Chairman, you have an operating company of which let us remember the United States Government may have contributed 1 acre or 2 acres of land along the conduit, or within the reservoir site, or bordering upon stream, or a reservoir, or the whole of the land covered by the fall, but none of the other property; and in many cases that I know, and that are well known to all who are familiar at all with water powers in the West, many cases known to the gentlemen around this table, the conception of a water power has involved 30 or 40 or 100 acres, which could be acquired from private persons, and 1 acre, 2 acres, 10 acres, 20 acres which would have to be acquired from the Federal Government, if the thing would be a success. The reason why it has been suggested in this bill that the Government take over all of the property, in case we take any of the property, is that in many cases, not in all cases, but in many cases, the lands which the Federal Government owns and leases for water-power purposes, may be the heart of the water-power system, useless except connected with the rest of the system, and the taking away of which might render the entire system useless. For instance, if the Federal Government owned the fall, the use of which is necessary to the development of water, the taking of that fall would render useless all of the distributing and all of the rest of the business; and, on the other hand, the taking away of that fall by the Government without the distributing system would give the Government something worse than nothing unless it created a like business.

In the first place, there is a vast difference between a lot of steel, iron, concrete, wood, going into the construction of a water-power site, a water-power plant, transmission lines, and distributing lines and substations, between those material things, and the completed business, represented by the connection of the physical structures named, to the users of the power plant. That is the going business; it is the result of time, brains, and money. The success of water-power companies depends upon the success of the management of those companies in connection with the consumer of the product;

and when you have got it connected there is a tremendous difference between the value of that going business and the value of the material—steel, iron, concrete, and wood—which constitutes the physical property involved. And of that great structure, the Government owns nothing of all of the substations, switchboards, and distributing lines and meters; nothing of the going business, and the customers and all that sort of thing; but a part or perhaps all of the water-power site, differing in all cases. Take a system like the Pacific Gas & Electric Co., of California. They have physical property, the value of which is estimated to exceed $100,000,000. They have an annual revenue of something like $30,000,000. They have developed water-power plants and steam plants to the number altogether, I think, of 50 or 60. It is a consolidation of companies, which served originally more than 200 towns, and it is now operated by one company under the control and regulation of the Public Service Commission of California. That company has constructed a number of water powers, a part of which are on Government lands, and those water-power sites are used for supplying not one group of customers within one limited locality, but push electric energy into a huge network of transmission lines which spreads over 200 miles north and south and 100 miles east and west—you will correct me if I am in error.

Mr. RAKER. You are right.

Mr. WILLCOX. An extreme length of something like 300 miles north and south, and the relation of the Federal lands occupied by those dam sites, or one of the falls involved in the water power to that whole property is so small that while it is negligible from a national standpoint is extremely small.

What, may I ask, is the object of the water-power legislation by the Congress? And this is what I meant when I said a few moments ago, "we are not apt to be able to see the woods on account of the trees." We have not disposed at this meeting of that question. What is the object of the water-power legislation by Congress? It has a purpose, unquestionably, and I may not be able to define the purpose as it exists in the minds of the members of this committee, or any one of them, but I would like to bring before the committee some views on the subject. We are a great commercial nation. We produce far more than we consume. We are an exporting nation, and the balance of trade is almost continually in our favor. The object of all the people is to produce wealth in some form; and I know no constitutional or statutory limitation prohibiting the production. It is a great incentive to most of the activities of the Government, especially of the Agriculture Department—the treating of soils and showing what crops grow best in different places, solely to show the farmer how to produce more wealth. It is the great object of nearly all the other departments, outside of the War, Navy, and State. And I think that we may say that the object of the Federal Government in considering the water-power question is to make such disposition of that question as will produce the greatest good to the greatest number of people in the United States. How can that be done? Can it be done by creating a revenue for the Federal Government by leaseholds and rentals, by taxation, or by payments based on developed horsepower; or can it be done by

encouraging the development of the power in such a way that it shall produce the greatest amount of wealth in the Nation?

I say that the object should be the production of the greatest amount of wealth in the Nation, conditioned, however, upon proper regulation and control, in the first place; conditioned, second, upon the right of the recapture by the Federal Government, under such conditions—why should we say, in spite of the merriment of some of the public officers sitting here—why should we state that the object of water-power legislation should be the production of wealth? In the first place, it is necessary to our individual happiness, prosperity, and success; in the second place, it is necessary to the support of every State government, municipal government, and municipal function from taxation; and, in the third place, it is necessary to support the Federal Government. Without wealth none of us could live; without wealth none of the Governments could proceed; without increasing wealth the increasing expenditures of our State, municipal, and Federal Governments could not be supported.

Does electricity produce wealth? I think that is undeniable. We all know that, and the engineers, whom I understand have been asked to testify, will testify on that. There is probably no one single commercial activity to-day which produces wealth in the interest of the consumer of that power more rapidly than eltctric power.

What is necessary to encourage the production of water power? Whether or not I am right in saying we ought to encourage the production of wealth, I am surely right that this committee and the Congress, the present Secretary of War, and Secretary of the Interior have all expressed themselves as being desirous of encouraging water-power development. What is necessary to encourage water-power development?

It is perfectly certain that if grants of water power are made within reason, upon conditions which would assure title permanent over a period of years, long enough to pay for the necessary construction, that some development will take place. If there is a limited lease granted on positive transfer for 20 years on the payment of $5 per horsepower per year, with absolute power in the Secretary of the Interior to regulate that business, I imagine some water power might be developed, because it is extremely cheap or very much needed or something of that sort. It is true that if there are no restrictions upon the development of water power a great many more powers will be developed. The difficult question before the committee is to find some place between absolute freedom of grant of the property involved and owned by the Federal Government in the development of water power, and those conditions which put a present obstacle and check and blanket upon the development of the power on the Government lands. The first question is involved necessarily in the answer: Unless the Federal Government grants for land involved a title which can be maintained over some period of years it will be impossible to get anybody to invest his money in water-power plant absolutely. If the right is reserved in anybody to terminate the tenure, the lease, the grant, whatever you may call it, at any time or within less than a definite time, the less uncertainty of tenure and the freedom from obstacle the more apt you are to attract capital to the development of water power. Those things are self-evident; but certainty of title is absolutely necessary. Why is a definite term less

attractive to capital than a perpetual term? Because in a definite term the capital invested must be amortized to the people who supply water as owners or as landlords, and because in perpetuity it is not necessary to return that capital. It is a permanent investment in the property itself, and therefore no amortization of capital is necessary. It runs on as your title to your farm runs on, and therefore it is a more certain and more attractive investment.

Is it necessary that we should define a term between a short tenure and a perpetual term so short as not to attract any capital? There again we come to the policy of the Federal Government. Is it necessary to a proper preservation of the interests of the Federal Government in water powers that the Federal Government should fix a time at the expiration of which the lease shall cease? I say no.

I have pointed out, in the first place, the relation of the lands owned by the Government to a completed and operated water-power business, and the knowledge of it is such that it is perfectly clear that in many if not all cases the property granted by the Government in the way of lease of land is a small part of all the property involved.

So that the Government under the provisions of the bill which is now before this committee, for acquiring all of the property used or useful or dependent upon the water-power lands in question, would acquire not the lands in question but a tremendous going business with which the National Government has no concern whatever. Why should the National Government take over the Pacific Gas & Electric Co. because the business of that company depends entirely upon 10 acres of land in a reservoir covering 200 acres? Why should the Government of the United States take over any transmission lines, distributing lines, corporate franchises, rights of way, contracts with customers, in order to recapture a piece of land which it owns in the remote mountains of the western country? Why should the United States take over these lands for any reason, excepting two, and what other conditions are necessary to the preservation of the rights of the United States and the people of the United States? If it is reserved in these bills that this grant shall run for a definite time and thereafter until taken over by the Federal Government, upon fair compensation for all the property involved and for either, first, public necessity, or, second, oppressive monopoly? Has the Government the constitutional right to take over a water-power plant, including its customers and all its other attributes and functions, except for public necessity? And if it takes it over for a public necessity or in order to dispose of or cure an oppressive monopoly, does not the Federal Government have all the things that it seeks to do in retaining the right to its water-power lands?

The CHAIRMAN. Will you suspend for a moment? It is now 12.05 o'clock, and Mr. Willcox has used 45 minutes, but I presume the committee would like to hear him further. What are the wishes of the committee?

Mr. RAKER. I move that we take a recess until 2.30 o'clock this afternoon, and then at that time Mr. Willcox can proceed.

Mr. WILLCOX. I shall not take up more time. My remaining statement ought not to take up to exceed 20 minutes, and that would make an hour and five minutes altogether.

The CHAIRMAN. Without objection, the committee will stand in recess until 2.30 o'clock this afternoon, at which time Mr. Willcox will resume his remarks.

(Thereupon, at 12.10 p. m., the committee took a recess until 2.30 o'clock this afternoon.)

AFTER RECESS.

At the expiration of the recess the committee assembled.

The CHAIRMAN. Mr. Willcox, you may proceed.

STATEMENT OF OSCAR B. WILLCOX—Resumed.

Mr. WILLCOX. I was endeavoring to point out that any obstacle or restriction in the disposition of such public lands of the United States as are a necessary part of water power development, will in the same measure restrict the development of water powers. Without advocating a conveyance without restriction, I do want to point out that such a conveyance would be one which would encourage the greatest amount of water power development. That goes without saying. It is for this committee and for Congress to determine to what extent they will make the tenancy less than an absolute fee in the interest of the Government; but they must have a clear understanding that every restriction on the character of the tenancy, whether in time or in other respects, will to that extent obstruct the development of water power. There are a few which could be developed, as I pointed out, notwithstanding restrictions, and a great many others which with any restrictions would never be developed; and that is a question of broad public policy which is for Congress to decide.

The chief difficulty, from the bankers' standpoint, from the standpoint of financing of water-power developments, is in the term. What shall be the duration and the character of the term granted in a lease by the Federal Government of lands necessary for water-power development? In the first place, there must be, in order to get the capital to develop water powers, whether the man putting up the money is the owner or mortgagee, certainty in the tenure, and for that reason it will help the development of the water power and you can make your terms certain. Whether it shall be for a definite period or not, whether it be with compensation to the Government or not, whether it be with regulation by the Secretary or other body or not, the more uncertainties there are in the bill the less water-power development will there be, because each uncertainty adds to the risk of the capital involved. I will point out that if you make an indefinite term of the right of the Federal Government to take over at anything less than a fair value of the property at the time, the man who invests his money does not know when he will lose a part of his investment.

If you make a term of a definite period of 50 years, with no provision that the operator at the expiration of that period shall have full compensation for the fair value of his property, which necessitates amortization of part of that value, each one of those things is a restriction on the freedom of capital and the uncertainty of its

return with interest, and therefore will restrict the development of water power.

On the question of the right of recapture, the taking it back by the Federal Government, there has been more or less discussion of whether it will be actual valuation or some other valuation. The question of the compensation to be paid by the Federal Government is one of basic importance, from the bankers' standpoint. As Mr. Fisher pointed out yesterday, there can be no benefit to the Government nor the people of the United States by dealing unfairly with the man who puts his money into the water powers. That goes without saying. Then we must see what would be a fair measure of compensation at any time, whether it is taken by reason of public necessity or by reason of the expiration of the term or for any other purpose or reason. We must arrange that the compensation to be paid to the company operating the property shall be a fair compensation for the value of the property at the time. That includes what? It includes, we will assume, all of the capital invested and interest up to the time, which has not been made out of profits, and a fair profit, because, in order to have water-power development, we must secure not merely interest, but also a profit upon the time they have put in and the energy which they might devote to other enterprises with certainty of profit. So that if you expect to encourage the development of water powers, you must expect, also, that the Government shall pay to the owner of the property a fair value of the property at the time, even though that does involves some profit to the man who makes the original investment and takes the initial risk.

I want to discuss very briefly this question of monopoly. It has been stated by nearly all the members of the committee at various times that they are opposed to monopoly. I think what they mean may be—I am not sure—an oppressive monopoly or an unregulated monopoly. A monopoly in itself in the furnishing of electric power and light to a limited area has been encouraged by all of the States which have regulatory bodies in the way of corporation commissions. You will find, I think, invariably in those States which have undertaken to regulate public-service corporations through commission, to regulate rates and service and so on, a provision that no permission will be given to any company to enter into a field already occupied, where the rates are fair and the service adequate, and that, stated in another way, means that it is in the public interest, in the opinion of the legislatures in those States, that these public utilities be served by one body, corporation, partnership, or individual, so long as he gives good service at fair rates. The reason for it, of course, is where you have competition in this particular, you have duplication of investment and consequently a higher cost to the consumer.

You must recall that the electric light and power business is not like others in many respects. A man who is raising cantaloupes or corn or persimmons or grain can ship his product to any market in the world. A man who is raising celery and lettuce can ship it only to a limited area. A man who is producing iron and lumber can ship it to any market in the world that will take it, but the producer of electricity is strictly limited, in the present development of the art, by the transmissible distance, the distances to which electricity can

be transmitted economically. That distance is constantly extended and will constantly extend with the development of the art. It has risen from 8 or 10 miles a few years ago gradually through the intervening distances until now they are transmitting electricity economically up to 250 miles, but within that area the investment is absolutely fixed, and unless there is a demand for his product within that area there is no return and therefore no inducement to go into that business. Therefore, you must remember that a duplication of producing or generating plants and duplication of transmission lines in the same area means that you have twice the capital invested in that limited area for the use of the public in that limited area, and since the public-service commission in all of the States, almost without exception, have declared that the price must be such as will return to the investor a fair return on the money invested, it follows that that community will have to return in the proceeds of electric power and light used a fair return on twice the investment or approximately twice the investment if that community is served by two instead of by one company.

And that is one of the reasons why, it is one of those things which the commissions call "natural monopoly," and they have prevented intrusion of one company into the field operated by them where the rates have been reasonable and the service adequate.

There is another reason why it is better to have a community served by one company rather than a number. It is more of an engineering question, but it is one that the bankers always look at in considering investment in such securities, and that is that the wider the market the larger the number of consumers, the greater amount of electricity sold, the cheaper the rate can be made. And that follows from a very cursory understanding of the nature of the business. The product of a water-power plant is limited by two things: The flow of the stream and the capacity of the machines installed. There are very few streams which flow the same current all of the year around. In nearly all the western streams there are very wide seasonal differences in the flow. In some of the streams, as in California, the largest flow is in the wintertime; in other streams, as in Colorado and Nevada, the largest flow is in the spring and not in the wintertime, because in the wintertime there the water is frozen up. So that you will have a stream which will produce at its maximum flow, say, 10,000 horsepower which at its minimum flow will produce only 1,000 horsepower. Therefore the amount of continuous energy that can be supplied throughout the year is only 1.000 horsepower, the amount that will be produced all the time. The rest of the power can be produced and delivered for a part of the time, and therefore is available only to those who can use it a part of the time; and, naturally, that difference between the minimum capacity and the maximum capacity must be supplemented in some way in order that the total investment cost of the development may be utilized all of the time in producing he maximum amount of electricity which can be generated by the flow of the stream. That leads to the construction of steam plants, in some instances to the construction of storage reservoirs, in other instances again to drawing a supply of water power from several different streams where the maximum run-off is at different periods of the year and the minimum run-off at

other periods of the year. If two companies are handling two plants they can not work together for the benefit of all of the consumers, because they each must earn a return on the whole investment, which is utilized only a part of the time. Therefore a company owning several plants and able to supply a large amount of electricity, because they can build that supply up when it is deficient in one power by supplying steam power or from another water power, that power company can charge a less rate profitably than two companies can with those different sources of supply.

Yet, again, it is remarkable and it is understood only by engineers who have studied and who have been good enough to point it out to other students of the subject, a factor, called the "diversity factor," which is well worthy of study, and I do not know a better concrete illustration of it than the one given by Samuel Insul, of Chicago, in an address he made the other day in New York before the Finance Forum. He showed that one apartment house in a certain area would use the company's power on an average of 6 per cent of the time, whether it be for elevators, for lights, for vacuum cleaners, and other things. In other words, only 6 per cent of the installed capacity or the investment made to serve that apartment house would be used on the average. He showed, however, that if you could get together a hundred—I am not sure of that number, it may have been 60, but it was a large number of apartment houses in the same locality—that that, strange as it may seem, combination would use not 6 per cent but 20 per cent of the capacity of the apparatus installed. So that the power company could readily, as you see, give a lower rate per kilowatt hour or other unit to a block of apartment houses all of the same character, than it could if it supplied one apartment house. That diversity factor is true of quarries, it is true of machine work, it is true of a great many other uses of electricity which appear to be identical, which you would think could only use electricity at the same time, and when you add to a plant a number of such things, you get a factor which permits a lower rate. When you add a great many different varieties of load, quarries, apartment houses, machine shops, elevators, pumping, and so on, you are using more of your investment all the time, and therefore the power company can afford to give a low rate. That would indicate, and that is the position taken by the public service commissions, and the legislatures of 27 of the States, that it is in the public interest to develop a "natural monopoly," that is service of a given community by a single company, provided, of course, that company is regulated in its rates.

On the question of oppressive monopoly, we have been assailed, you have been assailed, the public has been assailed by the bugbear of oppressive monopoly in water power. Let me ask if any of the committee have ever heard of a single case of "oppressive monopoly" in the water-power business? I do not know of a single case.

Mr. RAKER. I heard two years ago in regard to the hydroelectric power of California, that they were all under monopoly.

Mr. WILLCOX. They were, but did you hear of an oppressive monopoly charging higher rates than either the business justified or the service warranted?

Mr. KENT. I have heard of cases where a company was absolutely and terrifically overcapitalized and demanded the right to overcharge the consumers because of the capital investment.

Mr. WILLCOX. Can you give the name of the company?

Mr. KENT. Mr. Narboe is engineer of the State of California, and he can give the details of that.

Mr. WILLCOX. I suppose that will naturally follow. There may be one instance. If there is only one instance that proves it all the more, I should think; but my point is, there are not many, if any, cases and I doubt if there are any cases which, when analyzed, it will show the company is charging there a higher rate than the product is worth or higher than the service warrants.

Mr. KENT. They will always charge on the capitalization, if they can. They go before a public utility commission and say they have invested so much in this, though it is made all water, and try to make the public pay on water.

Mr. WILLCOX. Mr. Kent, allow me to say the capitalization has nothing to do with it.

Mr. KENT. We do not propose to let it have.

Mr. WILLCOX. I propose to have nothing to do with it, I assure you. The capitalization has nothing to do with the rate charged for service, because the rate charged for service is in its nature a competitive service, although there is a natural monopoly.

Mr. KENT. We want a natural monopoly, and we do not want to have an overcapitalization that comes from competition, and we do not propose to give grants in such form that they can charge up on that under a State commission or Federal commission in giving grants made by the Government to the States.

Mr. WILLCOX. I am glad to have that statement of views of the member of the committee.

The price paid for power has nothing to do with the capitalization of the company. The price charged for power is regulated by two things: One is the value of the service to the people served, because there is no compulsion on them to take power; and the other is the price at which another company can produce that same power in the same community by steam, which is measured, of course, by the cost of oil or coal. It is true in power companies as in every other industry, in certain cases overcapitalization has been made and they have issued more than is justified.

Mr. KENT. More bonds.

Mr. WILLCOX. Mr. Kent says "more bonds" have been issued than has been justified. As to that I do not know, but it is not true that the amount of capital stock issued or amount of bonds issued has anything to do with the earning power of the company.

Mr. KENT. Not earning power, but charges under a regulated commission. They always set up bonded indebtedness as one thing that has to be recognized.

Mr. WILLCOX. In every case that I know anything about, in all of the regulated public-service companies, the capitalization has not been a determining factor in fixing the rates; and, as I say, there are two-thirds of the States in which the rates are fixed by public-service commissions, and in which the valuation of the property determined by the commission is the determining factor in the rate.

Mr. KENT. Not in California.

Mr. WILLCOX. In California you will find that they have not as yet made any valuation of the larger properties; whether they have of the small ones or not, I do not know.

Mr. KENT. They set up bonds and capitalization, and we are coming to that little by little, but at the present time they have set up bonds and capitalization, and our regulative board, supervisors and all, have been called upon and it has been demanded of them that they recognize the bonded indebtedness of the company where the bonded indebtedness of the company was rightfully acquired or whether just simply water.

Mr. WILLCOX. The question which I was discussing was the question of the rates. I was about to say that the rates charged are measured by the value of the service to the consumer, and the cost of producing the power in some other way.

It is also true that for every single case of rate reduction through the action of a court or by the action of a public-service commission there have been scores, if not hundreds, of cases of voluntary reduction, and the reason of that is, again, an economic factor, which is involved in the business itself, namely, that the lower the price you can sell your product at the more purchasers for that product you have, and therefore the wider opportunity to spread overhead charges and interest charges and so on, and the result is the profit is better; and the point has not yet been reached, I think, Mr. Chairman, in the reduction of rates by public-service corporations when the reduction in rate does not bring any increased demand for the product. Of course, there are communities fully saturated where all the power is used that can be used in the community at the time being; on the other hand, in all of our prosperous communities the population is increasing rapidly, and the larger factor is the increase in the use of electricity, so that there is a constant increase in the amount of electricity required. The more electricity that can be used, the cheaper is the rate; the smaller the amount of electricity used, the higher is the rate, and therefore it is better to have several plants hooked up together than to have one run separately.

On the question of the banker, I want to refer for a few moments to the banker.

The CHAIRMAN. Mr. Willcox, we regret very much to admonish you that your time has expired.

Mr. WILLCOX. I have five minutes more, owing to interruptions with questions by the members of the committee.

I as a banker and my company as a banker have no interest in this question except as dealers in securities, as merchants in securities. We are interested and our clients are interested in some water-power companies, some of which have had controversies with the Government and some of which have had various relations with the Government, but our financial interest is practically nil—very, very slight. Our interest in the subject is solely that of merchants of securities. My interest is larger, because I have been studying the subject for years, but as a merchant of securities we are only looking for that sort of security which the public will buy; and when an issue of bonds of a water-power company is presented to us, we scrutinize it to see whether it is good security. If there is good security and there is a good market for the product they are willing to pay more for it than if there is less security and a poor market; and when we buy those bonds as permanent investments we buy them merely as merchants on that result. If they are well secured

bonds we can afford to resell at less percentage for the turnover than if the security has any elements of uncertainty, because it takes less work to do it. In the case of poorly secured bonds we have to charge more, because our salesmen require more and our advertising has to be greater and the risk is greater. So the interest of the banker is good securities; the more regulation, the better are those securities. I thank you very much.

The CHAIRMAN. Do the members of the committee desire to inquire further of Mr. Willcox?

Mr. RAKER. I would like to ask a few questions when he gets through.

The CHAIRMAN. Proceed now.

Mr. RAKER. Have you any concrete plan of your own in regard to handling this matter, Mr. Willcox?

Mr. WILLCOX. If it were all mine and I represented the Federal Government in disposing of the water-power question, Mr. Chairman, I would grant a permit which would run for not less than 50 years and thereafter until the Government should take it over for public purposes or to prevent an oppressive monopoly. I should give the Secretary power or other proper body the right to renew the 50-year term from time to time either before or at the expiration of the first 50 years, to provide for the refunding of bond issues, because at the expiration of the first 50 years, if there is no certainty the permit is going to extend 50 years more, it may be difficult for the company to refund bonds for the new issue for any definite term. As the conservator of the interests of the people, I would absolutely prohibit the building up of bureaucracy which would have charge of water powers for the Federal Government, because they charge the people through taxation or otherwise, whether that charge be imposed upon imaginary taxable property directly or indirectly or upon the water power, because I think it is in the interest of the people not to have those expenses added to the National Government, and because I believe that the regulation by the State under the history of this business has been adequate and will be adequate.

Mr. RAKER. Well, have you taken into consideration in this bill the question as presented in section 5, that after the 50-year period of the lease has expired, and upon 3 years' notice thereof, that the Government could take possession of the entire plant or just that which is leased from the Government? What do you understand from this bill? You have given it some thought and consideration. What does that mean now?

Mr. WILLCOX. I understand that the bill, as it stands now, provides that the Government on taking the property should take all of the property dependent in whole or in part for its usefulness upon the continuance of the lease in question.

Mr. RAKER. Do you construe that to mean that it should take the buildings whether on or off the land that is leased, if it is a part of the plant?

Mr. WILLCOX. I believe that the intent of section 5——

Mr. RAKER (interposing). What do you think of that policy?

Mr. WILLCOX. I think the Government should have the right to take all the property involved for a public necessity—a matter of national necessity. I think they should have no right to take it except for a national necessity.

Mr. RAKER. This bill does not provide for a "national necessity"?

Mr. WILLCOX. It does not.

Mr. RAKER. It simply provides generally for the Government at the expiration of 50 years to say, "Here, we want a new lessee. Because of a lease on the small tract it could take over the entire plant, maybe worth $10,000,000 or $15,000,000?

Mr. WILLCOX. The effect is not to take back the property that the Government has leased to the tenant, but is forced to give the tenant as a condition an option on all the other property that will have to be connected with the leased premises.

Mr. RAKER. What would you think of the policy of the Government taking over generally?

Mr. WILLCOX. I think it is economically bad and unconstitutional.

Mr. RAKER. With its ramifications of 200 or 300 miles each way from the plant, with its power houses and its lines and its poles and its water ditches and its water rights—for the Government to take those and then handle it?

Mr. WILLCOX. I think it is economically bad, indisputably, because the Government can not handle such property as economically as it can be handled in private hands, because the public will not benefit from it, because it will result in added taxation to the people, either the community served or the people as a whole, and I regard that provision also as beyond the power of the Federal Government.

Mr. RAKER. Just, simply as a matter of policy for the Government to embark upon, what would be your view as to whether the Government should embark upon such business?

Mr. WILLCOX. I think it should not.

Mr. RAKER. Even if it could under the Constitution?

Mr. WILLCOX. Even if it could; yes, sir.

Mr. RAKER. That would be your statement from years of experience in this matter all over the United States?

Mr. WILLCOX. It would, for several reasons.

Mr. RAKER. And what are they?

Mr. WILLCOX. One of them would be that it would build up a tremendous army of Government employees for which there is no necessity, and those would constantly exercise their influence upon governmental policies and upon governmental expenditures. My opinion——

Mr. TAYLOR of Colorado. And local elections.

Mr. WILLCOX. And local elections. I say governmental policies and expenditures in the local, municipal, and national governments. It is my opinion that no body of Government employees, State, municipal, or national, could operate such a complex and intricate, involved, and technical business so well as those who are the owners of it and who employ the best talent and bring them up through years of experience to manage the property for private interests. And, to go one step further, if I may be permitted, there is no object which the National Government could accomplish by taking over those properties and operating them which can not be accomplished by private ownership and private connection. Let me say I am in favor of thorough regulation both of rates and service and capitalization.

Mr. RAKER. From your knowledge of this subject, going over many years, has there come to your knowledge any reason or necessity of the Government assuming such governmental functions?

Mr. WILLCOX. I know of none.

Mr. RAKER. From none of the States, east or west?

Mr. WILLCOX. None of the States, east or west. My experience in the West is that the people and the State are willing, if they could, to subsidize private capital for the construction of water power, because usually in the Western States there are two or three water powers that can be developed economically and financially sound, and no more. The others are too expensive to develop economically, and, in the second place, there is no market for them; and I want to say right here that I know of no water power—and I challenge the gentlemen in the room to show me any—on the Government lands for which a market is now ready and waiting; and the gentlemen who undertake the development of any water power, great or small, on the public domain—except, possibly, a small one for mining—would have not only to develop the water power itself, but would have to create the market.

The CHAIRMAN. As you insert a challenge in your proposition and invite the committee to make a suggestion, what about Hetch Hetchy? There is one case. I do not know how many more there may be.

Mr. WILLCOX. I do not quite get the chairman's question.

The CHAIRMAN. Your challenge that you threw out to the committee that there was not a place in the United States where water power could be built up on public lands where there is any demand for the power.

Mr. WILLCOX. Not a market existing to-day.

The CHAIRMAN. What about San Francisco and the Hetch Hetchy and any others?

Mr. WILLCOX. San Francisco is adequately supplied by water power through the Western Power Co. and the Pacific Gas & Electric Co. by steam plants, from both of those companies, and in addition there are two or three I know of—and I do not know how many additional smaller companies—furnishing San Francisco, and there is no inadequate service in San Francisco to-day, I believe.

The CHAIRMAN. Mr. Willcox, there is the trouble with your facts. You assert things to be a fact. That is not borne out by the facts. This committee and this Congress, at both ends of the Capitol, has been led to believe, and it is asserted in the public prints, it is asserted by the mayor, it is asserted by the city clerk, it is asserted by practically all the citizens of San Francisco, that they were under the direst need of water, they were suffering most keenly from oppression, and that it was a burning necessity upon which Congress must and did act as an emergency. Now, for you to come and say there is no necessity for water power there makes us from necessity challenge your other statements which we do not know about.

Mr. WILLCOX. Mr. Chairman, I regret very much if I have made any statement which is not in accordance with facts. I must differ with the chairman on the statement. I did not say there was no necessity for water-power development. I said there was no undeveloped water power on the public domain for which a market was now ready and waiting. I admit, Mr. Chairman, that there is neces-

sity for the development of every horsepower undeveloped on the public domain, which is a national necessity, and it should be met by the development of those water powers; but what I mean to convey is that if you should have the Hetch Hetchy developed to-day it would be years before the market could be developed to absorb the electric power thereby produced.

The CHAIRMAN. Will that be true all the time of Hetch Hetchy?

Mr. WILLCOX. I do not know what the market will be in the meantime. I know that the electrical market is immensely increasing, and I am satisfied that when Hetch Hetchy is completed it will be used for all the power developed, and, in fact, all other——

Mr. RAKER. Is it not a fact that Hetch Hetchy had for its primal purpose and object the furnishing of a water supply to San Francisco?

Mr. WILLCOX. Furnishing water supply for San Francisco.

Mr. RAKER. And incidentally there would be a power developed.

Mr. WILLCOX. Incidentally a hydraulic power developed, and that was involved in the chairman's question to me.

The CHAIRMAN. Will you pardon me? It is called to my attention that the Pacific Gas & Electric Co. has, within a single year—in fact, last year—developed 40,000 horsepower of water power on the public domain. Why should you say to this committee that at no time, at any place, is there anywhere where power can be established on the public lands and for which there is no demand?

Mr. WILLCOX. Mr. Chairman——

The CHAIRMAN (interposing). The committee is not so conversant with that as you are, but you ought to be careful not to mislead the committee.

Mr. WILLCOX. I have no intention of misleading the committee, and I am very glad that the chairman challenges my statement, and I trust he will ask the same questions to engineers. The Pacific Gas & Electric Co. I know about, although not intimately. That company has been buying from the Western Power Co. 20,000 horsepower per annum of electric power generated by the Western Power Co. It has been operating a large number of small water-power plants, and a large number of steam plants operated by oil and by coal—chiefly by oil.

This large development does two things: It produced in a series of plants electricity by the operation of large units, involving very little labor, and it does produce that electricity and at a uniform rate, through very large storage, through the Spaulding Dam. The result is that through that operation the Pacific Gas & Electric Co. has procured and has a cheaper supply of electricity than it had before, and, second, the supply to meet the continually growing, constantly growing, rapidly growing demand for electric power and energy throughout that State.

Mr. RAKER. Is it not a fact that that company has developed up and down the Sacramento and San Joaquin Valleys many hundreds of farms?

Mr. WILLCOX. There are areas in California which would be as unproductive as this table if it were not for electricity.

The CHAIRMAN. About that there is no controversy.

Mr. WILLCOX. And they have been developed by electricity, and they are working in and showing new uses for electricity; but, Mr.

Chairman, do not imagine for a moment that people are standing up, reaching out for electricity. That Pacific Gas & Electric Co. has hundreds of solicitors out; it goes to cement works, operated by coal or by oil, and shows those cement makers how they can convert their machinery for electric drive, and operate cheaper than they can by steam, and after weeks of expensive demonstration they prove it to them, and they furnish that cement works.

They do the same thing on street railways, power for which is generated by steam, and they do it on the farms—show how they can farm cheaper with electricity than with a gasoline engine, and the result is that they constantly get a larger and larger load through the development of the individual company by the experts, who show the new uses and show the adaptation of electricity to old uses.

When I say there is no demand I do not mean there is not a growing demand. It is a tremendous demand, and I am in favor—that is why I am here—of having the Federal Government to open the water powers to the greatest development possible consistent with the public interests.

Has the chairman any further doubt as to what I mean on the initial facts?

The CHAIRMAN. Are you acquainted with the Pacific Power & Light Co.?

Mr. WILLCOX. Not so very much. That operates in Los Angeles.

The CHAIRMAN. Do you know they are making use of the water power on the public domain right along?

Mr. WILLCOX. Yes, sir.

The CHAIRMAN. And have within the last year——

Mr. WILLCOX. Within the last year.

The CHAIRMAN. So a little while ago, when you thought there was no place where there was an actual waiting for power created on the public domain, you were in error about that?

Mr. WILLCOX. I was not in error.

The CHAIRMAN. Why not?

Mr. WILLCOX. Because, Mr. Chairman, the water power which is developed by such companies as the Pacific Power & Light Co. and the Pacific Gas & Electric Co. is in order to secure cheaper power for power already developed by oil or by small water powers, and to supply the constantly growing demand and to provide in advance power that will be demanded with the growth of the country.

The CHAIRMAN. Do you not think that to get cheaper power there is a demand for use of electric power?

Mr. WILLCOX. I did not use the word "demand" in that sense.

The CHAIRMAN. Perhaps I misunderstood you.

Mr. WILLCOX. Of course, it is a demand when the company itself demands a cheaper method of producing it and produces it for that purpose. I know very few water powers which are able to load up their entire capacity yearly, I never heard of one, and I never heard of anybody else who heard of one. It takes years to get in the various customers who will load that plant up to its capacity, but what I meant, if I may attempt to repeat again, is this: Suppose you go anywhere in the West or East and build a water power of the capacity of 10,000 horsepower—a very moderate one—and sit down and wait. You would not get a customer. You would have to go out and reach for it, with the rarest exceptions, and the manager for

a private company which is contented to build a water power, and sit and wait for customers to come, would be fired the minute he announces that policy. He would have to put on solicitors trained in applying electric power, changing the steam drive into electrical, trained in explaining to housewives how they can iron cheaper with electricity than coal. In some places they can heat houses cheaper with electricity than coal.

Mr. RAKER. Are they not in the vicinity of Sacramento plowing with electricity?

Mr. WILLCOX. They are plowing there with electricity and also pumping.

Mr. RAKER. They have great cables on the end of the field, and they are plowing with electricity.

Mr. WILLCOX. So there is, Mr. Chairman, a demand created by the power companies. They have developed machinery which makes plowing feasible; they have developed electrical pumps and the demand is aided by the industry, and not by the outside demand for the power itself.

Mr. Chairman, whether my statement of facts in words agrees with your own, let me say this: That there will be use for all the water power on the public domain as fast as it can be developed. You and I are absolutely in harmony on that.

The CHAIRMAN. I misunderstood you.

Mr. RAKER. I want to ask about the water power on the public domain as it applies to California and Oregon in a moment, but I want to confine myself a moment to section 5, or its provisions, so that we may have something upon which to act later. Your idea as to furnishing the fair or actual value for the interest in land would apply to that which is obtained from the Government alone, upon the initial cost, would it?

Mr. WILLCOX. I do not understand the question.

Mr. RAKER. I will put it differently. In other words, this provision applies to rights of way, water rights and interests, whatever they might be, upon the electric plant complete?

Mr. WILLCOX. The bill now provides it should be taken over at actual cost.

Mr. RAKER. You would understand that would apply solely to the land obtained by lease from the Government. It is right in that lease?

Mr. WILLCOX. I do not understand that is the intention of the act. My reading of the act is that the actual cost should be paid for rights of way, water rights, interests in lands, whether purchased or acquired from the Federal Government or otherwise, or from other parties.

Mr. RAKER. What would you do with a man's privately owned lands adjoining the leased lands, with his water right, with his ditches and rights of way, and the plants that he has built on this privately owned land? Would you pay him what it originally cost him, or would you pay him its actual market value at the time of taking over by the Government?

Mr. WILLCOX. Not its market value, but its then fair value: not its cost, not its market value, but its then fair value, and I would take the whole plant and the value of the whole property.

Mr. RAKER. Then the Government would be in this attitude of leasing 100 acres of land worth now $100.

Mr. WILLCOX. $125.

Mr. RAKER. $125; and after 50 years would be in the position of taking over an electric plant that might be worth $20,000,000?

Mr. WILLCOX. Exactly.

Mr. RAKER. That is conceivable and would be the condition from your personal knowledge of the way plants are built up and handled?

Mr. WILLCOX. Precisely.

Mr. RAKER. That would be detrimental to the Government service, or would it not?

Mr. WILLCOX. I think extremely detrimental to the Government service and to the public interest; that is, the interest of the people themselves, of which I claim to be one.

Mr. RAKER. Taking Oregon and Washington and California, from your knowledge of the situation is there any monopoly of the hydroelectric energy that is now developed in those States?

Mr. WILLCOX. I think not. In fact, there is no monopoly extending over all of those States. There is doubtless one company serving a wide area without competition in several instances.

Mr. RAKER. In what State is that?

Mr. WILLCOX. I am not so familiar with Washington and Oregon as I am with California.

Mr. RAKER. Take it in California.

Mr. WILLCOX. But there is undoubtedly——

Mr. RAKER. Take it in the southern part of the State, that is under the supervision and control now of the public service commission, is it not?

Mr. WILLCOX. Serving Los Angeles and that section?

Mr. RAKER. Yes.

Mr. WILLCOX. Yes.

Mr. RAKER. The same way for the Sacramento, which serves Oakland and San Francisco and all of the surrounding towns?

Mr. WILLCOX. Several companies in both those regions.

Mr. RAKER. They are all under the present public service commission of the State of California that regulates not only electric power, but our railroads and all other common carriers of every kind?

Mr. WILLCOX. As I understand it is so outside of the cities, but in the cities the cities have the right to reserve, and I think they reserve the right to maintain the railroads.

Mr. RAKER. Unless they turn it over to the commission?

Mr. WILLCOX. Unless they turn it over to the commission—in San Francisco, since you were asking about monopoly, there are three or four companies serving San Francisco; in Los Angeles at least two. There is a municipally owned plant in Pasadena. There are several other smaller plants; another separate company, called the San Bernardino.

Mr. RAKER. On the question found in the bill here on page 5, lines 13 to 17, section 8, as to the fixing of a rental or royalty, what have you to say to that?

Mr. WILLCOX. I think that the Government has power.

That is a physical, sovereign, governmental function, through the operation of which it may require, as a condition to the leasing of lands, that by contract a man taking the lease shall pay them on any

basis that the Government chooses to demand. I think that, as a matter of right, the Government has no power to charge upon the water-power development, because it does not own the water. I have known instances where the Government has insisted upon a charge based upon the total hydraulic electric output of a large plant, costing many hundreds of thousands of dollars, because the pipe line in some parts remote from the stream crossed a part of the section of land in the forest reserve. I have known where they have made the same requirement where a part of a reservoir, in no way connected with the water power itself, for conservation of storage, lay on the public lands or forest reserves.

Mr. KENT. Is that exercised in the public interest or just for instance?

Mr. WILLCOX. Exercised in the public interest as viewed by the officer who has charge of the matter.

Mr. RAKER. Let us take a concrete case.

Mr. WILLCOX. Let me say, in answer to Mr. Kent's question, everyone grants that there is no specific congressional authority for the imposition of tax on power or water power as such.

Mr. KENT. We have sovereign power to reserve all the rights and exercise the power that we have, as we may see it, in the public interest, have we not?

Mr. WILLCOX. There is no specific congressional authority for the levying of a charge or tax on hydroelectric power.

Mr. KENT. We can levy that as a condition precedent, can we not?

Mr. WILLCOX. Congress may. I say that the officers of the Government have had no authority from Congress to levy a tax or charge on hydroelectric power. There is no statute authorizing any officer to levy a charge or tax on hydroelectric power.

Mr. KENT. That is outside of this bill entirely?

Mr. WILLCOX. I am talking about the question of water power. That is a special bill.

Mr. TAYLOR. That is only very recent.

The CHAIRMAN. It is signed.

Mr. RAKER. That bill, Mr. Chairman, does not figure on any electric power. It charges them so much for the grant.

The CHAIRMAN. Charges them a rental for the use.

Mr. RAKER. For the lands?

The CHAIRMAN. Yes.

Mr. RAKER. It does not refer to the water development, how much they may have at all?

The CHAIRMAN. There is a clear case and clear recognition, and there is no use rolling it around under the tongue. The Government places a condition precedent upon the payment of rent for the use of the Government dam site in a nonnavigable stream, intrastate though the matter may be purely. The Hetch Hetchy Valley is in California, the city of San Francisco is in California, and the entire pipe line is in California, for which the city of San Francisco pay to the Federal Government an annual rental. Congress has so recently absolutely adopted that theory that it is idle to debate it.

Mr. RAKER. On that proposition——

Mr. KENT. The bill bears the name of the gentleman from California.

Mr. RAKER. It was argued before the committee, in the House and in the Senate, and it is a question I contended for then and do now, that we have a right to ask for so much, upon condition in making a grant, and this was a grant of land, and had no relation to water or to water power at all.

Mr. WILLCOX. I agree with the gentleman entirely, that Congress made such condition. I agree that Congress has the power to make that condition, but what I said was, that there is no congressional act; no act of Congress now authorizing any officer of the Government, as a general law, to impose a tax or charge on water power developed on the public domain. The principle——

The CHAIRMAN. Gentlemen, that is between tweedle dee and tweedle dum, whether we get it at so much per horsepower, or whether we get for an annual rent, or whether we get it upon a yearly charge, or whether we get it upon this or whether we get it upon that. There is the dam site. The water is nonnavigable; it is on the public domain, below the community that builds the dam, that uses the water power that springs from it, pays to the Federal Government a rental for it. I do not care whether it is so much per acre; so much for the dam site; so much per year or whatever you may call it, it is that and nothing more.

Mr. WILLCOX. It is a special act and not a general act. I was discussing general acts of Congress.

The CHAIRMAN. Your statement was that there was no act.

Mr. KENT. They are acting under the powers of the Congress in that connection.

The CHAIRMAN. It was local in its nature. Congress whipsawed around on that for three or four months.

Mr. GRAHAM. Whether it was special or general it establishes the principle.

The CHAIRMAN. Undoubtedly.

Mr. GRAHAM. Was it not generally understood to placate those opposed to that idea that the Hetch Hetchy bill was not in any way to be a precedent, and Mr. Taylor frequently called attention to it as the case sui generis?

The CHAIRMAN. I did not grasp that idea.

Mr. GRAHAM. I have heard it a number of times.

The CHAIRMAN. You and I and others, though the old women and grandmothers' organization were here fighting us on the proposition, went ahead and did business, irrespective of what may be said. We did it, and it is the law, and to debate what it is, this or that, we did it. It is like the fellow in jail. You say we can not put him in jail. We did do it; he is in jail; and we did enact it, and it is the law. The city of San Francisco rejoices to get it.

Mr. KENT. The people who did it are perfectly willing to be criticized.

Mr. TAYLOR. And because San Francisco who needed water most desperately, now they want to extend it to the whole United States.

Mr. KENT. Go ahead and beat it in the Supreme Court, is all I say.

Mr. RAKER. I do not want to discuss the merits or demerits of the principle in that bill. I do not believe they are here. I just want that in the record. I am trying to get the fact from this witness; and if I may be permitted I will get him by a few questions.

In this provision the Secretary of the Interior is authorized to fix in the lease and to collect charges or rentals for all the power developed and sold or used by the lessee. What I want to ask you is this: If the land leased is 1,000 acres and is worth $1,500, and the rest of the equipment for this plant, additional lands purchased from private individuals, water rights, and rights of way obtained by this company or individuals, received upon the basis of the value of the land to the Government or would you fix the value of the rental basis upon its whole output?

Mr. WILLCOX. My opinion, based upon the value of the property the Government leases.

Mr. RAKER. From your observation, as a man having experience, which would be the fairer way?

Mr. WILLCOX. To fix it on the value of the land which the United States leased.

Mr. RAKER. And nothing further?

Mr. TAYLOR. In other words, you would not tax his own industry?

Mr. WILLCOX. I would not tax his own industry. I would leave that to the State, which would tax his entire property as such, every thing that is properly within the taxable property of the State.

Mr. RAKER. In other words, his rights—his ditch rights, his privately owned land would be taxed by the State and county and municipal authorities.

Mr. WILLCOX. Exactly.

Mr. RAKER. But the tract that he rented from the Government would not be taxed?

Mr. WILLCOX. Could not be taxed.

Mr. RAKER. Could not be taxed and would not be taxed?

Mr. WILLCOX. Exactly.

Mr. RAKER. And therefore your contention is not only fair to the Government, but fair to the State in which the property is located, that there should be no rental or royalty except that which would some from the reasonable valuation of the land leased from the Government?

Mr. WILLCOX. Precisely.

Mr. RAKER. Let us take the State of Oregon, for instance. Is it your idea that the Government owns none of its waters in the State of Oregon in the navigable and nonnavigable streams?

Mr. WILLCOX. I do not understand that the Government owns any of the water. I do understand that in nonnavigable streams it has no control of the water; that in navigable streams it has control of the water for the purposes of commerce.

Mr. RAKER. And that alone?

Mr. WILLCOX. So I understand.

Mr. RAKER. Let us take the nonnavigable streams that flow over the Government domain. Your understanding is that the water and the water rights belong to the States?

Mr. WILLCOX. To the States.

Mr. RAKER. Have you read the late case of Hough *v.* Porter, decided by the Supreme Court of Oregon?

Mr. WILLCOX. No; I do not think I have. How long since?

Mr. RAKER. That determined that the Government, by the act of 1877, known as the "desert-land act," practically surrendered all of its riparian rights in the State of Oregon.

Mr. WILLCOX. I did not recognize the title. I am familiar with that case.

Mr. RAKER. Mr. Sinnott is familiar with that case also. Is that about the purport of that, Mr. Sinnott?

Mr. SINNOTT. I will not undertake to say what the full purport is.

Mr. RAKER. That one principle?

Mr. SINNOTT. It abolished the doctrine of riparian rights?

Mr. RAKER. That is as I understand. If the Government has waived any riparian rights it has upon its own lands; then anyone entering upon the stream and using and appropriating that water, like the Government, would have the prior claim to it, and the Government would have no right to go on and use its lands that was not disposed of as against prior proprietors, would it?

Mr. WILLCOX. So I understand.

Mr. RAKER. The riparian right having been obliterated by the act of Congress?

Mr. WILLCOX. Yes.

Mr. RAKER. What right would the Government have if it leased a man a tract of land over which a nonnavigable stream flowed to rent any water in that stream to one who desired to use part of it for an electric plant?

Mr. WILLCOX. I understand it has none and contends for no such rights.

Mr. KENT. May I ask you a question? You claimed under a certain act the Government abdicated its right to riparian control, and your statement goes on to say that the Government's application of its right to riparian control is based on a decision of the Supreme Court of the State of Oregon.

Mr. RAKER. No, no.

Mr. SINNOTT. Read the desert-land act into the record.

Mr. RAKER. I prepared the pleadings, then I was elected to the bench, and my work went on with the rest, and I feel some pride with the knowledge of the decision that they held that the act of 1877, known as the desert-land act, waived the Government's right, so far as riparian ownership is concerned on the public lands, if it had any.

Mr. KENT. That was a decision of the Supreme Court of Oregon and not of the Supreme Court of the United States.

Mr. RAKER. A decision of the Supreme Court of Oregon.

Mr. KENT. How could the Supreme Court of Oregon construe a statute of the United States?

Mr. RAKER. It construed and referred to and used the many decisions of the Supreme Court of the United States which had directly passed upon that question, and upon which there is no definite opinion among the courts upon that question as to the appropriation of riparian rights. Going on to the question of California—when California was admitted into the Union that same right was granted to the State, in other words, to this effect (reading):

And that all the navigable water within the State shall be common as the highways, and forever free, as well to the inhabitants.

If that is to remain in force, can you tell me how the Federal Government should now turn around and charge for the use of the waters in these streams to provide public or municipal corporations desiring to operate an electrical plant?

Mr. BROWNE. Did you say "navigable water" then?

Mr. RAKER. Yes.

Mr. BROWNE. That is not at issue.

Mr. WILLCOX. Our impression is that the officers of the Federal Government who are aiding the passage of this bill do not claim they are making a charge on the water, but they claim, if I am right in understanding them, that they are fixing the amount of water power developed electrically as a basis for the minimum charge for the land leased.

Mr. RAKER. If I rent 100 acres of land and then develop 60,000 horsepower, and they charge me a royalty upon the 60,000, am I not paying for the use of the water that I obtained from the State?

Mr. WILLCOX. Yes, sir.

Mr. RAKER. What is the difference?

Mr. WILLCOX. None.

Mr. RAKER. I thought maybe you could draw some distinction.

Mr. WILLCOX. I am unable to.

Mr. RAKER. This relates to navigability, and was so held by the Supreme Court of California in a late case, and that is determined upon the question of fact that all the water belongs to the State and the land under it, and not to the Federal Government. Is that your view of the law?

Mr. WILLCOX. I am not familiar with that law. I mean I have not examined it in such a way that I can give a critical opinion on it.

Mr. RAKER. If that is the fact—if that is the condition, by what theory can you work out the idea that the individual who obtained the lease of a piece of land should pay for the amount of hydroelectric power generated from the water that he obtained from other sources?

Mr. WILLCOX. I think it is bad politically and economically.

The CHAIRMAN. Bad for whom?

Mr. WILLCOX. For the people.

Mr. RAKER. Would not such an arrangement prevent monopoly?

Mr. WILLCOX. I think it would tend to increase monopoly.

Mr. RAKER. Would not such an arrangement as those stated bring into the Federal Government a large revenue?

Mr. WILLCOX. Not more than the Government would expend in the administration of the subject matter.

Mr. RAKER. How do you get that conclusion? I would like to have that simplified a little bit, if that is a fact. I have just wondered what we are working so hard for?

Mr. WILLCOX. That, of course, is not based on any conditions which exist to-day, because they have not received a large revenue from these rentals, but I understand that Congress is constantly appropriating money to maintain the Bureau of Forestry. I understand that in the early days of the West the Government rented metal mines, and that they found that the cost of the collection of the royalty and rental was considerably more than the receipts of the Government. That may or may not be analogous to this. We

know—and I am not attacking any individual, whether present or absent—that every department of the Government in charge of the administration of such public functions is constantly reaching out for more power and constantly increasing the number of employees, both for political reasons and for results of the natural ambition to do more and to control more and to have more power. I feel that in this case it will be necessary to carry out any such views as expressed in the Ferris bill, that there should be a great many employees to determine very important questions. There would naturally be high-salaried men, and that the expense of the service would be very large. The charge upon the development of water power would be restricted, and there would be less water power development if such a charge is imposed than if it were not imposed; and while it is purely and solely a case as to what may happen, my "bet" is that after 10 or 15 years, no matter how large the water-power development, and unless there is a change in the policy of Congress, the administration of that bureau would cost more than its income.

Mr. RAKER. Let us take a large plant. Supposing it has 10,000 acres, which must be in the mountains, and must be land that is practically not farming land. Suppose it is worth $1.25 an acre.

Mr. TAYLOR of Colorado. There is not any plant covering 10,000 acres.

Mr. RAKER. I am assuming a big plant. The Government should not receive much revenue from that for rental?

Mr. WILLCOX. Not on any proper basis that I conceive.

Mr. RAKER. Add to that a plant of, say, $15,000,000. If the company paid a royalty to the Government for its lease of these 10,000 acres adequate to supervise the plant, as well as to give some revenue to the Government, and then this same institution paid its taxes upon its privately owned land and its plants and its franchise in the State, it would pay practically double taxation, for which neither the Government would get any benefit nor the State get any benefit. That is simply paid to the governmental officials to supervise. Would that be good administrative policy?

Mr. WILLCOX. I think not, and it would add all the cost of the administration to the charge on the consumer for the electric power, and it is by that same ratio you would decrease the amount of wealth, which might otherwise have been produced by that.

Mr. RAKER. Some one has said, and I do not remember who now—it has not been long since—that these charges for all of this would not be added up eventually to the consumer. Would that work out right?

Mr. WILLCOX. It must come on the consumer, for this reason, that two-thirds of the States now having public-service commissions, which regulate the rates to be charged as well as the service, and which limit the return to a fixed percentage on the value of the property at the time, they are responsible not only to see that the public gets a low rate, which shall not bring the company any more than that return, but they are also responsible to the company itself to see that it gets also a fair return upon its property. If that can be done by fixing the rate at the right point, when charges are made by way of a tax on water power or rental, it is either capital or it is operating expenses, one or the other. If it is capitalized it is added to the

amount the company may earn upon in its rate; if it is put into operating expense, it is deducted from the gross income to determine the net receipts, which is the basis of the return on the capital employed. So, in either case it must come sooner or later from the consumer.

Mr. RAKER. In other words, your theory is that every dollar that the company is compelled to pay out in the way of obtaining the plant, as well as of betterments, must of necessity come eventually from the consumer?

Mr. WILLCOX. If the plant is developed at all, yes.

The CHAIRMAN. Will you yield to me to make an observation?

Mr. RAKER. Sure.

The CHAIRMAN. That is expressing a theory identical to one which has grown moss covered, that we must keep a vigorous supply upon Dives's table so that Lazarus can get a few crumbs.

Mr. RAKER. That is too much for me.

The CHAIRMAN. That is not too much for me. The same arguments you are developing against this bill could be made against regulating usurious interest, and the arguments you are developing here could be made against fixing railroad rates, and could be made against any sort of a tax paid, that because a certain corporation has to submit to certain regulations and has to pay certain charges lawfully due, that that in the end will come out of the consumer.

Mr. WILLCOX. May I make an observation?

Mr. RAKER. Yes.

Mr. WILLCOX. Assuming that what the chairman has last said is true, it is then a question of policy whether the Government shall tax in that way the electric water power interests when it does not tax in that way the railroads, that it grants numerous rights of way, nor any other industry.

The CHAIRMAN. We lease our lands, we lease them in the forest reservation and utilize our property for different purposes.

Mr. WILLCOX. There is no tax of that sort reserved in any right of way granted to a railroad.

Mr. RAKER. In other words, you grant a right commencing at Chilkoot Pass, and it ends down above Oroville, a distance of 300 miles, and pays so much, but it does not pay a royalty upon the entire value of that railroad from Baltimore clear on to San Francisco, does it?

Mr. WILLCOX. It gets a perpetual right of way, which I think it should have, because it is a permanent industry, and it pays taxes to the State and not to the Federal Government on that right of way.

Mr. RAKER. What would you think of the idea of a bill providing for renting the land at a fixed rental, irrespective of what the party used it for and irrespective of whether he wanted it for hydroelectric power or used an engine on it?

Mr. WILLCOX. In my opinion the rental should be a fair interest on the value of the property, taking into consideration in determining that value every element of value that land has.

Mr. RAKER. Rental from the Government?

Mr. WILLCOX. In other words, fixing that value exactly as the courts fix it in cases of condemnation.

Mr. KENT. Mr. Chairman, I should like to ask Mr. Willcox whether his view of the public utility corresponds with mine. My view of the public utility is that it performs a necessary function that all

the people need, and that the people can either do that thing for themselves or permit an agency to do that for them. Do you agree to that?

Mr. WILLCOX. That involves municipal ownership, I suppose.

Mr. KENT. It is a question of public policy whether society perform this service of providing electric power for itself, or whether it should permit an agency to do it for it?

Mr. WILLCOX. I think it is a matter of policy which it should be done by. I do not concede all public-service corporations are merely agents of the State, because they have other functions.

Mr. KENT. It is just a matter of public policy whether it should be done by the public, or society, or by an individual?

Mr. WILLCOX. I think that may be assumed.

Mr. KENT. If you start out with that hypothesis, then it is our duty to see to it that these interests, these necessary functions, are performed for the people as cheaply as possible?

Mr. WILLCOX. I concede that.

Mr. KENT. We go further and say that in the performance of those functions the agency that society permits or authorizes should be free from unnecessary risk from competition?

Mr. WILLCOX. Absolutely.

Mr. KENT. That brings up your idea of the necessity in some cases of protecting monopoly?

Mr. WILLCOX. Yes.

Mr. KENT. I follow you right along down that line. In view of the fact that we see things that way, then, as I see it, and I believe you see it, it is the duty of Congress to see to it that the agencies that perform these necessary services shall be free from risk in order that they may be free from economic damage, from unnecessary competition and harrassment, and at the same time to see to it that in consideration of the protection that we grant—the concessions we grant—that the general public will be well served.

Mr. WILLCOX. You say it is the duty of the National Government?

Mr. KENT. As far as they grant concessions.

Mr. WILLCOX. It is a question of policy for Congress to determine whether it is the duty of the National Government or State government. I think it is a duty resting either on the State or National Government.

Mr. KENT. And you come here and ask concessions.

Mr. WILLCOX. I meant provide facility.

Mr. KENT. I know. I am talking about the hydroelectric people you are talking for. You come here and want concessions from us, and, as I see it, it is our duty to say "yes." The United States is not in the business of the production of electric power. We desire that those agencies shall produce electric power for the general benefit, and I agree absolutely with you that we want the utmost production of wealth that we can have; but over and above that it is our duty to see that the wealth thus produced shall be properly distributed, shall not be wasted in overcapitalization, in unreasonable charges, but that all the people shall get the benefits of the concessions that we, as Members of Congress, representing the Federal Government, give out of the public domain.

Mr. WILLCOX. I concede that that is the function of Government, and it ought to be done. Whether it should be done by Congress or the State governments is immaterial.

Let me add to this that, as a banker, the more careful the regulation is, both as to capitalization and of service and of rates, the better we are protected and the better our clients are protected.

Mr. KENT. But the trouble is the hydroelectric people come to us in Congress and then ask us for concessions. In keeping our obligation do you not conceive it to be our duty that if we grant the concessions they ask, we should absolutely see to it that we at least provide such conditions that the general public will reap an adequate benefit; that this will not be used to effectuate any overcapitalization?

Mr. WILLCOX. In concede in principle exactly what you say.

Mr. KENT. How are we going to control these things? If we grant absolute ownership we fall down there, as I see it. We have two means of controlling it in the public interest: A flexible system of compensation, with the Secretary of the Interior or a commission to be established by the Federal Government, always regardful in the matter of compensation upon the service rendered by the public. I know that the present Secretary believes that just in so far as the public-utility corporation which gets a concession does its full duty, in that far it shall be subject to less charge than if it inadequately performs its duty. The question of limitation of tenure seems to be another necessary control of those grants. Do you agree with me on those things?

Mr. WILLCOX. No. I agree with you that the Government is to be protected; I agree that if the State does not protect the public in adequate service and fair rates that the Federal Government may do it.

Mr. KENT. By establishing conditions precedent to a grant?

Mr. WILLCOX. It may do it in this instance by establishing a condition precedent to a franchise, and it is perfectly proper, in my opinion, that where lease of Government lands is made a condition may be made that the State failing to make proper regulations the Government may, in so far as it constitutionally may, regulate the rates. I do not think we differ, Mr. Kent. on that. The question of the cost to the Government, or whether the Government should perform the function better than the State is another matter.

Mr. BROWNE. Mr. Willcox, if I quote you correctly, you stated that a national necessity would be a perfectly good reason for taking over the entire plant at a certain location at the end of its 50 years' lease, and if at the same time you stated that the operations of any plant are limited at the present time to 250 or 200 miles in length and width, did you not qualify your "national necessity" by saying the national necessity would be the necessity of the people within the radius of that grant, because they have no other method of securing what they need?

Mr. WILLCOX. The national necessity is very different from the necessity of a State. The State will determine whether it is necessary for it to condemn the business of any company for its State purposes; the Federal Government will determine for itself whether for national purposes it is necessary to condemn, and that the State can not exercise the right to condemn for local purposes. I concede absolutely that the power should be reserved in the people to take over hydro-electric business complete as an entirety for public neces-

sity; that the State should have that right in the State and the Nation should have it for the Nation.

The CHAIRMAN. Mr. Willcox, just a moment. We must get through. You have read the Hetch Hetchy bill?

Mr. WILLCOX. I have not.

The CHAIRMAN. Section 7 of that bill, which was recently passed and is now a law, and, in fact, it was approved December 19, 1913, provides this—and I would say to the gentleman that the dam site, only part of which was owned by the Federal Government and part by private ownership, which is in a national park and public land—the dam site and the proposed use of the power and the water are within the State of California; all the pipe lines are in the State and no interstate conditions; it is nonnavigable. About that there is no question. I want to read section 7. It is short (reading):

SEC. 7. That for and in consideration of the grant by the United States as provided for in this act the said grantee shall assign, free of cost to the United States, all roads and trails built under the provisions hereof; and further, after the expiration of five years from the passage of this act the grantee shall pay to the United States the sum of $15,000 annually for a period of 10 years, beginning with the expiration of the five-year period before mentioned, and for the next 10 years following $20,000 annually, and for the remainder of the term of the grant shall, unless in the discretion of Congress the annual charge should be increased or diminished, pay the sum of $30,000 annually, said sums to be paid on the 1st day of July of each year. Until otherwise provided by Congress, said sums shall be kept in a separate fund by the United States, to be applied to the building and maintenance of roads and trails and other improvements in the Yosemite National Park and other national parks in the State of California. The Secretary of the Interior shall designate the uses to be made of sums paid under the provisions of this section under the conditions specified herein.

Do you or do you not say, as a lawyer, we have a right to do that?

Mr. WILLCOX. I say you have no right as a sovereign to make that condition. You had a right as a contracting party to make that condition acceptable to the other party; and, having been agreed to, it is binding.

The CHAIRMAN. An act of Congress is not an agreement. This is an act of Congress.

Mr. WILLCOX. That is an agreement, regardless of the fact that it is an act of Congress, and it states so in the language read.

The CHAIRMAN. You can not say that an act of Congress is an agreement.

Mr. WILLCOX. I can not; no. I do say that an agreement may be promulgated by act of Congress.

The CHAIRMAN. Let me ask you again. I want to get your opinion as a lawyer.

Mr. TAYLOR of Colorado. Will you let me make a suggestion? That is not only a contract, but San Francisco has formally accepted that agreement recently.

Mr. KENT. It is a contract in a sense, or they could not have a contract.

The CHAIRMAN. An act of Congress is not an agreement.

Mr. TAYLOR of Colorado. They did formally accept it.

Mr. KENT. That looks like absurd argument. We could not sit here and force San Francisco to accept it.

The CHAIRMAN. I do not think we need to debate whether an act of Congress is a contract or not.

Let me ask you another question. The Federal Government owning the dam site, owning the land on both sides of a nonnavigable stream within a State, you as a banker or as a promoter of water power, desire to build a dam on that. Have we or have we not a power under the Constitution and under the law the right to fix conditions under which you shall use the land?

Mr. WILLCOX. I think——

The CHAIRMAN (interposing). The rental or royalty?

Mr. WILLCOX. I think that is a question not finally determined. I do not know what the Supreme Court will do with it. My impression as a lawyer is that you have the right to fix reasonable conditions.

Mr. KENT. And we can refuse to grant anything unless we get conditions to suit.

Mr. WILLCOX. Absolutely; and those conditions depend on what Congress puts in the agreement with the party asking the grant.

The CHAIRMAN. That question is discussed in the case of Camfield *v.* United States (167 U. S., 524), where it is held that the United States may sell land or withhold it from sale. And in the case of United States *v.* Beebee (127 U. S., 342) it is held that it may withhold from sale and settlement, and that it may also, as an owner, object to its property being used for grazing purposes, for "the Government is charged with the duty and clothed with the power to protect the public domain from trespass and unlawful appropriation."

That the Federal Government may, as an owner, as a proprietor, and not in a sovereign capacity, sell or withhold land.

And in the case of Stearns *v.* Minnesota it is held that the United States can prohibit absolutely or fix the terms on which its property may be used; as it can withhold or reserve the land, it can do so indefinitely (179 U. S., 243).

It is true that the United States do not and can not hold property as a monarch may for private or personal purposes. (Van Brocklin *v.* Tennessee, 117 U. S., 158.)

Now, look at another case: Kansas *v.* Colorado (206 U. S., 89). But that does not lead to the conclusion that it is without the rights incident to ownership, for the Constitution declares, section 3, Article IV, that—

"Congress shall have the power to dispose of and make all needful rules and regulations respecting the territory or the property belonging to the United States."

The full scope of this paragraph has never been definitely settled. Primarily, at least, it is a grant of power to the United States of control over its property.

There is no one here who doubts these facts.

Mr. WILLCOX. That you can administer it along these lines?

The CHAIRMAN. Yes, sir. The case of Butte City Water Co. *v.* Baker (196 U. S., 126) shows that the United States is an owner and has made Congress the principal agent to dispose of its property. And in the Camfield case referred to it is held that the Government has the rights of an ordinary proprietor to maintain its possession and prosecute trespassers, and that it may deal with such lands precisely as an ordinary individual may deal with his farming property.

Can the Government not with the same propriety as a private individual fix the conditions under which a contemplated water-power company can use its land?

Mr. WILLCOX. As a matter of legal right it can, but it can not charge for water power as such.

The CHAIRMAN. What do you call section 8 of the bill if it is not a charge or rental of water power, a rental deemed satisfactory; where is the difference?

Mr. WILLCOX. There is no difference.

The CHAIRMAN. No difference at all?

Mr. WILLCOX. It is the rental which the grantee agrees to pay.

The CHAIRMAN. And which Congress provided he should pay, and I don't think anybody will doubt the ability of Congress to do that.

Mr. WILLCOX. I have no doubt about that. The question is whether it will or not.

The CHAIRMAN. Yes; that is the question which it is perfectly proper to debate, but we should not have any question about the power of Congress to do that.

There was some testimony here this morning as to the lease of the Pacific Gas & Electric Co. As I recall it, I believe it was stated that it was for 100 years.

Mr. WILLCOX. I said that my impression was that it ran for from 50 to 100 years.

The CHAIRMAN. With either figure you would not be quite correct. I merely wanted to get it straight on the record. The loan for $150,000,000 was made on December 1, 1911, and it is due January 1, 1942, which makes a 31-year loan. I thought the record ought to show that.

Mr. WILLCOX. Those loans are made to run for varying terms of years.

The CHAIRMAN. If they can get a loan of $150,000,000 for 31 years, why was it so essential that this grant should be made a perpetual one, as advocated by you?

Mr. WILLCOX. The principal reason is that the power would be developed for the consumer, and because on a short lease the value to be turned over to the Government must be amortized. It is necessary on short leases to have some assurance for renewal, and the public must pay back in the form of earnings to the company a sufficient amount for the retirement of the mortgage on every cent the company has borrowed.

Mr. KENT. The question comes up, then, as to what they should borrow the money for.

Mr. WILLCOX. Yes, sir.

Mr. KENT. Whether it is for legitimate purposes to carry on the business for 50 years. And at the end of 50 years, if the Government takes it over, they should pay what the property is then worth.

Mr. WILLCOX. They ought to.

Mr. KENT. Not for good will, or anything of that sort, but what the property is worth. If they borrowed money for any other purpose than that, then they would be guilty of unlawful acts.

Mr. WILLCOX. They should not be allowed to do it.

The CHAIRMAN. Mr. Stillwell, the committee will be glad to hear from you now.

Mr. STILLWELL. I am here, Mr. Chairman, as a member of a committee representing the American Institute of Electrical Engineers,

but I would rather you hear Mr. Townly first. He is also a member of the committee.

The CHAIRMAN. All right—Mr. Townly. Please give your name and address to the reporter.

STATEMENT OF MR. CALVERT TOWNLY, 165 BROADWAY, NEW YORK CITY.

Mr. TOWNLY. Mr. Chairman and gentlemen of the committee, I am here with three other members of the committee of seven to represent the American Institute of Electrical Engineers. We came partly at the kind suggestion of the Secretary of the Interior, Mr. Lane, who communicated with Mr. Stillwell.

The American Institute of Electrical Engineers is, as its name signifies, a body of electrical engineers numbering something over 7,000, of which there are some 6,300 or 6,500 residing in the United States, and the rest of them are residing at different places throughout the world. The objects of the association are the promotion of the theory and practice of electrical engineering and its art and science. It is not in any sense a political body; our members are of all political parties.

We are not attempting here to advocate or oppose this bill; but we have come to offer our services, if the committee desires to have them, and only to that extent if you desire information along the lines with which we are familiar, as a committee of experts appearing here without compensation.

This committee was created by action of the board of directors of the American institute for the purpose of giving special attention to water power. There are seven members of the committee, of whom but three were able to be present here—Mr. Stillwell, Mr. Dunn, and myself. Mr. Stock, who is a past president of our institute, was unable to come; Mr. Lardner, of California, was added to the committee because of his residence in the far West. Mr. Buck and myself have been past presidents of the institute, and Mr. Finney served on the board of directors for three years.

I want to emphasize this fact, Mr. Chairman: That in our capacity as engineers we wish to confine our testimony to two things. First, to engineering facts and allied facts, which we believe are entirely beyond the field of controversy and which any of our members would indorse; and second, to matters of information based on those facts, which we also believe are entirely beyond the pale of controversy, and to refrain from giving our opinion on matters of law and feasibiliity of certain features of the bill and mattters of that kind. We do not want you to look on our testimony as individual opinions, and with that explanation I will go ahead, if I may.

Before I make any comment on the immediate matters of this bill, I would like to say a word about two phases of water-power development. The first is this: That even if all restriction of every nature were removed by the Government where there are water powers on the public domain, it is probable that many of those water powers would not be developed; that is to say, there are many other reasons besides the handicapping restrictions discussed here, for there are so many water powers that can not be developed at all; it may be superfluous to say it, but I have to say that many people

have a misleading idea of the general value of water power. There are many water powers which are, of course, very valuable; there are also a number of water powers which can not be commercially developed at all, because the total cost of producing power from those sites, compared with competing sources of power, would make it commercially impossible. Steam is the great competitor with which water power has to compete.

Much has been said in times past, not to mention what has been said here, about the diminishing supply of the Nation's fuel, and the possible increase in the value of hydroelectric development as time goes on. It is true that the fuel supply is diminishing and that the cost of coal has been gradually rising. It is also true that the improvements in science and art of producing power from steam have been very great and have much more than offset the increase in the cost of fuel, and so for many years past the cost of producing electric power by steam has steadily fallen.

So there are not waiting around in all corners of the globe, from our information, people who are ready and anxious to develop these hydroelectric power resources. There are a great many water powers on the public lands of commercial possibilities. We are thoroughly in sympathy with the idea which we understand causes the presentation of this bill—the development of the Nation's water power, for all the reasons that have been cited—and it is our information that water-power development on the public domain has been at a standstill, or very nearly at a standstill, for a considerable time, because of the insecure nature of the permits which, under the law, the Government is permitted to grant.

The other point I wish to emphasize has not been brought out here, except by inference, and that is the hydroelectric development of any power development, either by water or steam, has, if it is successful, a continuous growth from the time it begins to give service throughout its life. It does not spring into being as a completed entity. Various estimates may be made as to the rate of that growth; I have heard it stated all the way from 5 to 10 to 25 to 30 per cent a year. Opinions may differ as to what the rate would be, and I would not undertake to say what it would be; but unless the future development is contradictory to what it has been in the past, there will be a continuous growth in the future, and that demands a continuous investment for facilities with which to take care of that growth.

This bears on the discussion already had on this bill with respect to security and length of tenure. You might say that it was necessary to have one length of tenure or another, 25, 30, or 75 years; that question might be debatable; but whatever the correct tenure is, we can not escape from the fact that as time goes on that tenure becomes shorter, whereas the need for getting additional money continues without abatement. So as you approach the end of any fixed time of whatever length, the question is uppermost in the minds of those responsible for directing the enterprise, "How are we going to provide funds for the continued increase in our service?" In fact, as you come down to the last 10, 5, or 3 years, before the term is about to expire, you will find that you must have some means to insure the investor that his money will not be forfeited. Otherwise you would never get anybody to invest money in such projects.

Our committee, Mr. Chairman, does not represent any interests or groups of interests; we are not water-power people in the sense that we are financially interested with bankers in the development of water powers; but the American Institute of Electrical Engineers, or many members, I should say, are electrical engineers called upon to design the electric part of water-power plants and are called in a consulting capacity by the people who are to provide the funds. There are many difficulties and obstacles in the way of securing the proper financial support of these propositions; therefore we think it is of the utmost importance to bring to your attention this feature of growth. I have not noticed that this has been brought out in the discussion that has taken place. This bill provides in one section for the taking over by the Government of the properties of the grantee, and we disclaim any intention or desire of saying what the law is or should be in this matter; we are unable to say how this ought to be done, by one method or another; but I do want to emphasize the fact that these water powers will be handicapped as to their development and usefulness unless some means is provided not only for the safety of the original investment, but for the safety of the continuing investment which must be made from year to year as the life of the development of the power progresses.

Referring to the question of the growth and extension of hydroelectric systems and its regulation as to price and rates, I want to refer again to competition with steam power. Water-power service is admittedly inferior to steam service in every particular except that of cost. There is no feature of hydroelectric service which a consumer would rather have than he would steam, unless it is that he gets it for less money, so that the price to be charged for hydroelectric power must not only meet the competing steam rate, but it must compete with it. It must be lower.

The CHAIRMAN. Why is that true?

Mr. TOWNLY. Because, Mr. Chairman, in the first place, a steam plant is usually located near its market. You can always find a location for a steam plant within a reasonable distance of the community to be served. By having it near by it escapes entirely two things—the risk of interruption by the breaking down of a long transmission line and it also escapes the difficulty of regulating the service over such a line. Those are two important elements. Does that answer your question, Mr. Chairman?

The CHAIRMAN. Yes.

Mr. TAYLOR. The service does not depend alone on the flow of water?

Mr. TOWNLY. No, sir.

Mr. TAYLOR. There are a hundred things that might interfere with a water-power plant?

Mr. TOWNLY. Yes, sir; there are many things which make it less reliable.

Mr. KENT. In his remarks yesterday Mr. Fisher spoke about the fact that it was customary in California for water-power plants to be supplemented by steam—that they worked together; in other words, a big power company would find it necessary to have its water-power plant supplemented by a steam-power plant; and so they would not be, in that case, competitive.

Mr. TOWNLY. That is quite true. It is universally regarded as good practice to supplement hydroelectric plants with steam plants; but I was not referring to any particular locality, but merely intended to bring out the point that the inducements to invest in hydroelectric plants were not as good as those for investing in steam plants. That is, irrespective of what kind of Government control there would be of water-power plants.

Mr. KENT. Then, in all fairness, as we consider this matter, we should remember that hydroelectric power in the majority of cases is not sufficient by itself to furnish that continuity of service which must be required and which could be expected of steam service?

Mr. TOWNLY. That is true.

Now, the time is getting late, and I think that I have taken up all the time that I asked for, Mr. Chairman. But there are some other points——

The CHAIRMAN (interposing). Go ahead, Mr. Townly.

Mr. TAYLOR. Give us any special views which you have concerning any particular features of the bill.

Mr. TOWNLY. I will pass over the questions of details and the wording of the bill which I believe it is desired to change.

The CHAIRMAN. What would you think about the 50-year period, Mr. Townly?

Mr. TOWNLY. I think, Mr. Chairman, that whatever period you take, unless you provide for some treatment of the matter at the expiration of the period, you are inevitably going to create a serious difficulty at the end of the period.

Mr. TAYLOR. You think the service and everything else would run down, would it not?

Mr. TOWNLY. I am not saying so much, sir, with reference to the running down of the service, though that is true; but the growth will stop.

Mr. TAYLOR. I meant that the whole business would be running down.

Mr. TOWNLY. You know you can not legislate the money of the private investor into an enterprise like this which he knows is slowly dying and is going to die at a fixed time and in a rather short time. We have to state that, and that is a very serious difficulty; if you provide for a term that must expire and then propose to make a new deal, as might be done in this bill——

Mr. KENT. We have that situation in the case of the Chicago Traction Co., which was handled by a board of supervising engineers, and when the city took it over they had to pay back all the supervisors had authorized to be spent, and there was no loss to the investors whatever; they got $1.10 on their bonds.

Mr. TOWNLY. If you provide in some way in this bill that the investor would get back what he put in for himself, you would eliminate some of the difficulties. That brings up, of course, the question of charge. I have listened to the debate here to-day as to how they should be valued and how they should be controlled, and so forth. I would point out this difference between the water-power situation and the Chicago Traction situation: Here the people have not got their money in yet; we want to induce the development of water power and we want to expedite it and support it, and if a man or

group of men are asked to invest in water power and are confronted with the fact that the supervision of their expenditures would be taken over by a Government or State official, whatever it may be, at a set time, such as you refer to in the case of the Chicago Traction Co., I think you would have to concede that you would be doing something that would act as a deterrent to the investors.

Mr. KENT. In the case of the Chicago Traction Co., they got $1.10 on their bonds and in that way they not only got their money that they invested, but found it a profitable investment.

Mr. TOWNLY. I think, sir, that the success of that enterprise is very commendable; but I do not think that ought to mislead us in arriving at any conclusion with reference to this bill here. It seems to me that nobody at this time can now say what the rate of return is going to be 25 or 50 years from now, whether it will be an attractive rate or not.

Mr. KENT. Is not it all a question of ultimate risk anyhow?

Mr. TOWNLY. Certainly.

Mr. KENT. We must provide in this bill the element of risk, and it is much higher than existed in the case of the traction company in a big city.

Mr. TOWNLY. It must be higher and should not be attempted to be fixed at this time. You can not attempt to fix by legislation what a rate of interest is going to be, what will be allowed, at some time in the future, because in the case of water power it must compete in its attempt to secure capital with all the other industries.

Mr. KENT. You would not believe that in authorizing a grant we can permit them to double up capitalization and take that rake-off to start with?

Mr. TOWNLY. No; I would not draw in the bill any such provision as that. I would take every reasonable precaution against that, but I would not attempt now to fix the rate of return which would be allowable for 50 years hence. The point I wish to make is that the water-power developments or 25, 30, or 40 years hence will be big affairs, and the financial investor should ask for his money the highest rate of return. If it should transpire that the attractiveness of inducements of other industries showed to such advantage over water-power inducements, the latter would have difficulty in finding the proper financial backing.

Mr. KENT. Certainly 5 or 6 per cent would be a reasonable profit in all future time for the small investor. On the other hand, if a man goes into it with the idea of getting a much larger profit, he would expect to take more risk.

Mr. TOWNLY. Yes; the less the risk the lower the rate of return; but I think it would be unsafe to try to say that it should be a certain per cent.

Mr. KENT. We are not trying to do that. I was just trying to work out your view; that is, the elimination of the element of risk and a reasonable assurance of a reasonable profit.

Mr. TOWNLY. Yes, sir; that is a most important feature, I believe, the most important thing to be considered in this proposition.

I have discussed with the other members of the committee more at length that question than almost any other one, as to what would be the proper tenure for the Government to allow, and that would be such as to be acceptable to the investor.

Mr. TAYLOR. Have you arrived at any conclusion which you could give us in a concrete form?

Mr. TOWNLY. I am afraid we have not. It is rather difficult, particularly after listening to the objections that have been made here to-day on the part of the various members of the committee. My own view about the necessity for eliminating the tenure is perhaps different. It seems to me that the principal thing that is desired is to afford an opportunity to develop these water powers. There is no desire on anybody's part that this enterprise should stop at the end of a fixed tenure; the idea of having a limited tenure is to give additional measure of control. If we could be assured that this tenure if continued would never be abused, then nobody would want to stop it; but it is necessary to provide for possible future abuses of that provision; that probably accounts for the suggestion regarding a limit of tenure.

The CHAIRMAN. You recognize that it is absolutely impossible to even think or talk about anything about giving a perpetual grant.

Mr. TOWNLY. I would not ask for that; in fact, we are not here to ask for anything.

Mr. KENT. You are basing your argument on pure theory?

Mr. TOWNLY. Yes, sir.

The CHAIRMAN. It has been put in evidence here, or stated by somebody, that there was 200,000,000 horsepower available in this country. Do you agree that is a fair estimate of it?

Mr. TOWNLY. Two hundred million?

The CHAIRMAN. Yes, sir.

Mr. TOWNLY. I think, sir, that is a very liberal figure. I have here, and I was going to ask permission to leave this statement with the committee, some figures that have been prepared by a committee of the American Institute of Electrical Engineers on certain underlying principles governing water-power development. These were prepared and submitted to the United States National Waterway Commission in 1911, and as it is a statement of facts which do not change, I thought it would be well to submit them. These figures are just as true to-day as they were then, and they set forth much more concisely than I could certain facts, and if agreeable to the committee I will leave them with you.

The CHAIRMAN. You think that would be valuable for the record?

Mr. TOWNLY. Yes, sir.

The CHAIRMAN. How long a publication is it?

Mr. TOWNLY. Seven pages.

The CHAIRMAN. Unless there is objection to having that go into the record, it will be inserted at this time.

Mr. THOMPSON. I would suggest, Mr. Chairman, that it appear at the end of Mr. Townly's statement.

The CHAIRMAN. All right. Give it to the reporter and he will put it in at the end.

Mr. THOMPSON. I thought he was in the midst of some statement or some suggestion there.

Mr. TOWNLY. I was answering the question of the chairman with regard to the amount of horsepower available.

The CHAIRMAN. Does that statement answer it?

Mr. TOWNLY. This is a brief statement, prepared by the public policy committee and advisory members of the American Institute,

and presented at a public hearing before the United States National Waterways Commission, in Washington, November 21, 1911. It furnishes an estimate of the water power which is within reasonable reach of commercial markets; that is, water powers which are commercially feasible to develop. It puts it at about 35,000,000; of course, there is much more horsepower than that, but a large part of it is apparently too expensive to develop or in districts too remote from the market for current, and therefore unlikely to be commercially valuable.

The CHAIRMAN. You agree there is only 3 per cent of the total output, or the total possible output, has been developed?

Mr. TOWNLY. I have not the figures here.

The CHAIRMAN. It was stated that 6,000,000 horsepower was in use, but that there was 200,000,000 available in the United States.

Mr. TOWNLY. I think that 200,000,000 is a rather high figure, at least for commercial possibilities.

The CHAIRMAN. As to the 6,000,000 now in use?

Mr. TOWNLY. I could not say whether that was correct or not.

The CHAIRMAN. Well, granting for the moment that those figures are even roughly correct, you would not think it wise to put in this bill a specific amount for horsepower for a period of 50 or 25 years?

Mr. TOWNLY. For what purpose?

The CHAIRMAN. So much per horsepower—a fixed rental.

Mr. TOWNLY. I would say that whether you use a fixed amount per horsepower—or what other basis you may decide upon—it is extremely important to fix the charge; or there is the alternative that you must provide for some kind of readjustment, and that introduces an element of uncertainty in the case which acts as a deterrent to the investor.

Whether you make it a high rental charge or a low rental charge is a matter of policy; and it has, of course, been pointed out that the lower the charge the greater number of water powers it is probable will be developed.

The CHAIRMAN. Well, what would you think would be a reasonable charge? What would be a reasonable charge in one locality might not be so in another.

Mr. TOWNLY. Possibly.

The CHAIRMAN. But is there any fixed known value, any precedent to go by to know what should be charged per horsepower?

Mr. TOWNLY. Of course, there are tolls and charges in various cases which you might say were precedents.

The CHAIRMAN. Where? In Norway?

Mr. TOWNLY. Yes; they have fixed upon a charge in Norway and various countries, but what I was going to say is this: There would be some water powers developed in spite of almost any charge, because they would obviously be very profitable; then there will be some that will never be developed because you could not compete with others. Between those two extremes there are grades all the way up.

Mr. TAYLOR. The amount developed would depend on the conditions that are imposed by the Government?

Mr. TOWNLY. Certainly, sir.

The CHAIRMAN. Having that in mind, that would make it necessary to leave some discretion to the Secretary of the Interior to fix a rate?

Mr. TOWNLY. Unless you abandon the policy of having the Federal Government attempt to get any revenue from these water powers. If you simply want to reserve title, as was suggested by some one, or if you only want to get a nominal sum in order to secure the proper regulation, you might impose a very small charge of some kind which would be insignificant in considering the cost of development and operation. But if you want to take the other viewpoint and obtain revenue, you are right. I would agree with you that some powers would stand a much higher charge than others.

The CHAIRMAN. Are you aware that this bill will turn back to the State the proceeds—whatever profit is made?

Mr. TOWNLY. Yes, sir.

Mr. TAYLOR. All the net profit, for there is going to be a large army of administrators, which will make the net profits much smaller.

Mr. TOWNLY. I am not competent to pass on those questions. They are hardly engineering questions. We had in mind one thing: That anything we could do to make simpler and easier the development of these additional water powers is of great advantage to the public. Now, this fact, however, will be a disadvantage which possibly may not have occurred to you. A company is proposing to develop a water power; it may be this power site is entirely on the public domain; maybe only a small part of it will be on public land, and that the bulk of it, the falls themselves and the storage reservoir, and all that, are on private lands which would have to be acquired by purchase, and you can not very well undertake condemnation proceedings until the company is in the saddle and everything is ready to go on, its right of way secured, etc., so the projectors of the enterprise will know what to expect.

Assuming you will vary the charge for land taken from the public domain, your projector must either come to the proper Government official to make this trade for these lands or he must go first and acquire these other private lands at large expenditure of money before he comes to the Government. If he comes to the Government officially, the fact that he is about to develop this water power may cost him a great deal more to get the private land. If he could know that there were certain limits, that the Government had a definite policy, for instance, that the officials having the matter in charge would not attempt to extort unreasonable charges, he would be pretty safe in going to buy the private land.

Mr. RAKER. I would like to ask you, Mr. Townly, in your observation as an electrical engineer, for the purpose of general discussion of this 35,000,000 horsepower, as suggested, or the 200,000,000 suggested by Mr. Fisher yesterday, as to the policy of the Government to adopt, would it be your view that it would be better to make a nominal charge for the regulation, or to make a charge large enough to insure a revenue to the Government?

Mr. TOWNLY. Well, sir, I would like to answer that, if you please, in this way: If you make the charge a nominal charge, you would encourage the development of water power which otherwise would not be developed, and, therefore, if it be the policy of the Government to encourage those water powers, that should be the plan. I would rather be excused from trying to advise you as to the better plan, however.

Mr. RAKER. But I was just asking from your experience what you thought would be better in order to develop these water powers—to furnish cheaper power, and I agree that ought to be done.

Mr. TOWNLY. We are certainly very earnest in urging such measures as will encourage the development of these water powers.

Mr. RAKER. My question resolves itself into this: Whether or not it would be better to so arrange this bill as to insure a great development of these water powers, rather than with the idea of receiving revenue.

Mr. TOWNLY. I should think so; yes, sir.

Mr. RAKER. With that idea in view, the States wherein the public lands are located, where there are water-power sites to be developed, would be getting a much larger benefit if we provided for the larger development than they would if we simply provided for development which would insure the Government a revenue.

Mr. TOWNLY. Mr. Stillwell, of our committee, had some figures on the value of manufactured products per horsepower. Would you mind giving them those figures, Mr. Stillwell?

Mr. STILLWELL. I have them here, and I think they are pertinent to this question.

The CHAIRMAN. We will let Mr. Stillwell put those in his hearing.

Mr. TAYLOR. Would it not be better for the West to have as low a rate as possible, even though we never got a dollar out of it; simply a rate that would pay for administration, and not try to get a high rate for the purpose of raising revenue?

Mr. TOWNLY. I should say it would be better to have rates as low as possible in order to encourage the development of water power, because of the consequent growth of the community.

Mr. TAYLOR. And not try to make them return any revenue?

Mr. TOWNLY. I think you would get it back many times over in other ways.

The CHAIRMAN. I am inclined that is the proper thing to do—a nominal charge, with full power to regulate and see to it that the washerwoman uses electricity in her house to work with, and that every advantage goes to the ultimate consumer. Now, with that in mind, what would you say about the tenure of the lease? If we proceed on the theory of nominal sums without any returns practically at all, what would you say about the tenure? What do you think we would have to make it in order to get capital to take hold there?

Mr. KENT. And with the assumption that at the end of the term we would pay for every legitimate dollar that had been put into the business?

The CHAIRMAN. And then have the full power to fix rates. I do not think we ought to have any strings to it. And we can not have anything that will smack of a perpetual grant, or that can not pass.

Mr. TOWNLY. I have no information on which to base an opinion as to what would go through Congress, but I can tell you from an economic standpoint that if the provision is made as suggested by Mr. Kent, that the investment is absolutely secure at the termination of the term and that the term of operation should continue until this was exercised—that is, the right of the Government to take it over——

The CHAIRMAN. There should be no twilight zone about that.

Mr. TOWNLY (continuing). Then the length of term would not be such a vital matter. Now, bonds are issued under different circumstances for different purposes. It has been pointed out that bonds were issued at some place for 31 years. I have known of cases in which there were bonds issued for 40 or 50 years. If you limit the term, or make it a short term, you therefore limit the market for your bonds because you cut out those people who do not want short-term bonds. If you permit 50 years, you broaden your market. And you get a smaller burden on your property by reason of having a wider market. It seems to me you would be justified in making a 50-year term.

The CHAIRMAN. And, going on a 50-year basis, what would now seem a reasonable and just rate in the light of the enormous possibilities of the development of water power at the end of 20 or 30 years might be grossly inadequate.

Mr. TOWNLY. I do not believe you could fix a rate now, whether you call it an interest rate of rental, anything with respect to profit that anyone could pay, would be a satisfactory rate 50 years from now.

I have assumed that the regulation of rates would be by a properly constituted commission, whether under the State or the Federal Government.

Mr. TAYLOR. Let me make a suggestion. These power sites and the whole plant would be subject to the regulation of the utilities commission anyway as to their rate of service, capitalization, etc.

Mr. TOWNLY. If you give liberal length of term and then impose fixed regulation of rates for service you are doing two things: You are going to insure capital and you are going to secure better service for the consumer. If you do that you would cover the ground. There is a serious question, which was referred to here by a former speaker, as to the growth of the business, which would kill off investment in auxiliary plants, in transmission lines, etc., at the end of 50 years; that is a very real difficulty, but I think it would be capable of solution on 30. There are two extreme cases: One case would be where the development of water power throughout the period of the grant would all be made on public lands—I mean the actual power plant, waterways, and dams on the public land—and that the only thing extending on private land would be the transmission lines, etc. Then there would be the other extreme, where the water power on the public domain would be comparatively a small part of the power system, such as the case with the Pacific Gas & Electric Co., with a very small portion of the system on the public domain as compared with the total equipment.

Mr. KENT. It seems to me that it is the way, by every means in our power to protect the consumer and the public, and if that may be secured by a little plant on the public domain, or most on private property, we should provide for that. I think we are justified in doing that in the public interest.

Mr. TOWNLY. I think you are, Mr. Kent. I earnestly agree with you that you should protect the consumer and protect the Government's rights, but I would add at the same time that in order to secure these water-power developments, you must make the investment attractive enough to insure development. The trouble with the law up to date has been that there was protection for the public and

too much exercise of power on the part of the Government, and so no investor would go into it.

Mr. KENT. I think we should make perfectly safe legitimate investment in this proposition, and that we should insure a reasonable profit without undue risk. I think we should do our full duty in that respect.

Mr. TOWNLY. I think that is quite right, sir. But don't let us protect the consumer so far that we will keep the investor out.

Mr. BROWN. Could the average value of undeveloped dam sites on the public domain bear as much as 5 per cent relation to the total cost and value of the going concern in developing hydroelectric energy found through its territory, on a very rough guess? What proportion of the whole financial project are we now able to use when we talk about undeveloped dam sites?

Mr. TOWNLY. That is a very difficult question to answer, and I hesitate to generalize. I think it is safe to say that the different power houses, etc., of hydroelectric development frequently cost not more than 50 per cent of the total.

You understand that the actual cost of hydroelectric development, so far as it applies to the dam, storage reservoir, the power house, etc., varies over a very wide range.

Mr. BROWN. I mean, generally, that you would approximate the value of the dam site at not more than half?

Mr. TOWNLY. I would think so.

Mr. BROWN. That brings it down generally to 50 per cent of the total.

Mr. TOWNLY. It would be probably less than that.

Mr. JOHNSON. For instance, I know of a plant which has about $40,000 invested; a portion of its canal or ditch is located on the public domain. I think there is 3,150 feet, occupying something more than half an acre or ground of the public domain. The cost of construction of that ditch would be about $500, as against $40,000 invested in the plant. The balance of the plant is on private property. Would it be possible, in view of cases of this kind, to take a definite rate or percentage it should pay the Government for the use of its land?

Mr. TOWNLY. I think you could say that the rate paid should bear some relation to the value of the land used. If you are willing to put it on that basis; if you undertake to fix the rate per horsepower and divide the $500 into the $40,000 to get a rate of so much per horsepower, you would find the charge would be so little that you could not calculate it.

Mr. JOHNSON. The value of this land is about $1.25 an acre.

Mr. TOWNLY. So it would be something very insignificant.

Mr. JOHNSON. And the company is paying the Government $15 a year for the use of the land.

STATEMENT OF LOUIS B. STILLWELL, OF NEW YORK CITY.

Mr. STILLWELL. Several of the matters I had intended to bring to the attention of the committee have been touched upon by others, and I will not go over them again. There are, however, one or two points on which I would like to lay some emphasis.

Referring to the question asked Mr. Townly as to the productive power of horsepower under average conditions, I have no statistics here later than 1905, but I have some for that year, and according to these statistics, which were compiled from the industrial census taken in that year, for each horsepower used in the United States a product worth $1,150 resulted. The wages paid averaged $248 per horsepower. The figures were used by Mr. Putnam and myself in some work prepared for the first congress of the governors held here at the White House under Mr. Roosevelt. In that year the manufacturing of products amounted to $1,152 for each horsepower installed, and the yearly wages of the men amounted to $248 per horsepower. The value of the product manufactured was nearly $17,000,000,000—seven times the total receipts of all the railroads.

So, it is evident at a glance from these figures that throughout the country in general the ratio of value of product per horsepower utilized in various States is surprising, and it is perfectly evident that no benefit can come to the public from the result of placing any tax on the development of water power. Even a slight accelleration of the rate of development of water power would be of great benefit to the people.

I would like to say just one word in regard to the difficulty which the engineers state in their effort to keep the wheels revolving. We have no particular ax to grind, but we have an interest in this matter, because our membership comprises the men who are in general in charge of developing this water power and who are working a great many hours a day on this matter. They are a hard-working lot and are engaged in the factories and laboratories and in the fields installing electric-transmission lines and keeping them in operation. We have some 700 members on the Pacific coast at this time, and they are an enterprising, hard-working, deserving lot of men. Our interest in this thing comes not only from the fact that we are citizens who wish to see the wealth of the country increased, but from the fact that we want to see our membership busy all along the line in the introduction of this art. Now, for the last five years since those permits mentioned this morning have been in effect, I have not run across in my experience a single instance in which a new water-power project in the West of any magnitude has been financed.

Mr. RAKER. There has been practically a cessation of development?

Mr. STILLWELL. Practically a cessation of development. There have been extensions of existing plants, which were absolutely necessary. And the people who have made them have had to accept such authorization or permit as they could obtain; but in my personal experience I do not know of a case where an important water-power development on the public domain has been financed and construction actually started within the last five years.

The CHAIRMAN. You would want to except the Pacific Light Co., would you not? They developed within that time.

Mr. STILLWELL. As an extension. They were in the business. I was referring to new enterprises, where the men who did not already have their money invested might have to start at the beginning. Those people were embarked in their enterprise and they had no choice but to go ahead. That is a very important point.

Mr. Townly and I are old men in this business; I think there is only one man who has been in the business longer than I have. In

the early days I was with Mr. Westinghouse in Pittsburgh, and I remember that we had plenty of schemes, but we had great difficulty in getting anybody to put up the money to back them. We put up the first electric plant in the West, a little plant of 100 horsepower at Telluride, Colo., and that was installed at the risk of the Westinghouse Electric Co., on the personal request and urging of Mr. Charles F. Scott and myself to Mr. Westinghouse. We asked him to risk that much money to see if there was anything of commercial possibility in this transmission business. In 1892, I went out all through the West where Mr. Westinghouse sent me in order to answer this question: Is it worth while to develop the water-power systems? Is there a field for power transmission? In those days it was almost impossible to get anyone to invest money in this business. These gentlemen here who represent the bond houses know that the bond merchant is a very useful function in the development of water-power sites, but you have to give them some assurance in the matter. As I told the conservation congress, you must have brains and ability to labor, and you must have water running down hill, but you must also have money, and you can not make money run up hill; it won't work. And you gentlemen know that we will have to make the channel attractive through which capital may be secured for an enterprise of this kind.

There are a few points in the bill that I would like to mention. For instance, under section 3 it is provided that:

Provided, That the physical combination of plants or lines for the generation, distribution, and use of power or energy under this act or under leases given hereunder may be permitted, in the discretion of the Secretary, but combinations, agreements, arrangements, or understandings, express or implied, to limit the output of electrical energy, to restrain trade with foreign nations or between two or more States or within any one State, or to fix, maintain, or increase prices for electrical energy or service is hereby forbidden.

Now, it seems to me, that it would be tending to delay, and in many instances, perhaps, prevent a company operating if they had in each instance, where they found it necessary, in order to make a new connection, to get the permission of the Secretary of the Interior. You know how it is, the farther away from headquarters the officials are, the more they wish to appear that they are earning their salaries, and unless there is a very good reason for that, I would keep out of the bill everything that would suffer that kind of red tape, of which they have so much in Germany. I was talking to a man not long ago who told me that their greatest difficulty was found in a case where they struck a subordinate away down the line who was absolutely impossible to get past. Now, a physical connection with an adjacent line, I think, might be permitted without reference to the Secretary, provided that the public is properly protected in order that there might be no increase in price. I think, as it is, the provision sufficiently protects the public in the matter of price, but it also compels you to go to the Secretary if you want to make a physical connection.

Now, with reference to section 6, which reads:

SEC. 6. That in lieu of taking over, maintaining, and operating the properties, as provided in section five hereof, the United States may, at its option, and at the same time and under the same conditions prescribed in said section five, take over and lease the same to another lessee upon such terms, under such conditions, and for such periods as applicable laws may then authorize, upon

the condition that the new lessee shall first take over, acquire, and pay for the properties of the first lessee, under the condition and in form and manner provided in section five hereof, or at the option of the United States the lease may be renewed to the original lessee, upon such terms and conditions and for such period as may be authorized under the then existing applicable laws.

The question is this: Does that mean that Congress may take it over, or the administrative officer decide whether it shall be taken over? If the latter, I think there is a very serious problem presented in this way. Some one might have a power plant that I would like to get hold of, and if I could persuade the Secretary that it is for the benefit of the country that he give this power plant to me, and let me take it over and operate it, it would be better than to let the other man continue with it.

It occurs to me that these power plants will be very valuable, 10 or 20 times more valuable than they will be at the beginning, and it seems to me it would be better to have this right exercised only by Congress. Of course that is looking a long time ahead.

The CHAIRMAN. You recognize that there is generally much delay in getting a bill through both branches of Congress, but I see the way that reads it looks as if it is the United States which has to do that. But supposing the termination of the lease came during an interval of Congress, you have to have some proviso that the thing should go on until Congress could act.

Mr. STILLWELL. In my hypothesis, I want to get it away from the other man.

The CHAIRMAN. The Secretary or official of some kind should be given this right.

Mr. STILLWELL. I think it is too great a power and too great a temptation, because an enterprise that puts in an amount of money, and in the first five years grows 15 per cent per annum, if that went on for 50 years, it would be a very large organization, and it would be something on which Congress should act, if circumstances would make it advisable.

The CHAIRMAN. In small irrigation projects it would not be large enough, but this, of course, would be a much larger concern.

Mr. STILLWELL. Certainly.

Mr. RAKER. Still the temptation would be there. Assuming those things——

The CHAIRMAN. But if the lease is for a fixed term, just as you lease a house or a farm or piece of vacant property, so it would be with a water power; they know what they will have to depend on. So, should it be any hardship at the end if they know it all the time?

Mr. STILLWELL. Of course they will amortize whatever they put into the business.

Mr. RAKER. To cover the entire amount they put in?

Mr. STILLWELL. Yes, sir. They will feel that they should have their full value at that time—what they regard as their full value; they will amortize that difference. This bill covers it far better than anything I have seen before.

The CHAIRMAN. You do recognize the necessity for Congress to get away from that revocable term?

Mr. STILLWELL. I surely do. It has been one of the economic crimes of this part of the century.

The CHAIRMAN. Will it be a blessing to the water-power development of the West if we offered them a law by which they can lease for a fixed rental, for a fixed period of years, so they will know precisely from the first to the last exactly what their rates are to be?

Mr. STILLWELL. You could not do a greater thing for the West, in my judgment. It is the most important problem in the West at the present time, I think.

The West, as you know, has a large portion of water power of the country.

Someone asked Mr. Townly how much was available, and I happen to have the latest figures on this subject. There are about 62,000,000 horsepower in the country, as a whole, which might be developed, if the market were ready for it, and that without storage; with storage, this estimate makes it 200,000,000. Now, of that 62,000,000, 44,000,000 are in the Western States. It is a curious fact that in most parts of the world where coal is lacking water power is available. That is true in Norway and Switzerland, as well as in our Western States.

The CHAIRMAN. It looks like a stroke of fate, does it not?

Mr. STILLWELL. Yes, sir; and there ought to be every possible thing done, consistent with the public good, to encourage capital to come in there and develop these water powers, and thus enable these communities to be built up.

The CHAIRMAN. What are those figures from?

Mr. STILLWELL. This is a census estimate from Mr. Layton, and is based on data supplied from Government reports.

The CHAIRMAN. That shows the water power possibilities by States?

Mr. STILLWELL. Yes, sir.

Mr. RAKER. I think that should go into the record.

The CHAIRMAN. All right; it will be inserted as a part of Mr. Stillwell's statement.

(The table referred to is as follows:)

Available water horsepower by States based on practicable maximum development without storage.

North Atlantic States:		North Central States:	
Maine	971,000	Ohio	213,000
New Hampshire	295,000	Indiana	141,000
Vermont	206,000	Illinois	414,000
Massachusetts	273,000	Michigan	352,000
Rhode Island	16,000	Wisconsin	804,000
Connecticut	164,000	Minnesota	593,000
New York	2,037,000	Iowa	458,000
New Jersey	127,000	Missouri	195,000
Pennsylvania	821,000	North Dakota	248,000
South Atlantic States:		South Dakota	90,000
Delaware	13,000	Nebraska	439,000
Maryland	146,000	Kansas	323,000
District of Columbia	13,000	South Central States:	
Virginia	1,044,000	Kentucky	236,000
West Virginia	1,261,000	Tennessee	913,000
North Carolina	1,050,000	Alabama	1,132,000
South Carolina	812,000	Mississippi	75,000
Georgia	752,000	Louisiana	2,000
Florida	16,000	Arkansas	73,000

South Central States—Con.	
Oklahoma	250,000
Texas	661,000
Western States:	
Montana	5,197,000
Idaho	3,080,000
Wyoming	1,566,000
Colorado	2,036,000
New Mexico	527,000
Arizona	2,038,000
Utah	1,581,000
Nevada	331,000
Washington	10,376,000
Western States—Con.	
Oregon	7,935,000
California	9,382,000
	61,678,000

SUMMARY.

North Atlantic States	4,910,000
South Atlantic States	5,107,000
North Central States	4,270,000
South Central States	3,342,000
Western States	44,049,000

With practicable maximum storage, the total available horsepower in the United States is closely estimated at 200,000,000.

Of the above total amount, the present development in the United States is about 6,000,000 horsepower.

There was a remark made here yesterday by Mr. Fisher which illustrated one of the difficulties that has stood in the way of the more prompt settlement of this question. He said that in view of the enormous possibilities of further improvement in the art of utilizing fully the water-power resources of the country, nobody could tell 20, 30, or 50 years from now what it might be worth. Now, it happens that the only mechanical art related to power with respect to which we know the limit is hydroelectric development. A cubic foot of water falling a certain distance has just so much energy, and with our present turbine we can get from 75 to 80 per cent of the energy out in the form of electric current, so you see we only have a margin of 25 per cent for possible improvement. The converse is true in regard to electric light and power developed by steam. The plant here, which supplies these lights is worked at extremely high efficiency, yet it is getting only about 8 per cent out of the coal used. The theoretical energy of that coal, as represented in these lights, is but about 5 per cent of the whole 8 per cent in it. The point I wish to make is that the production of power by steam may be much cheaper than it is to-day. Some gentleman referred to the fact that the cost has been steadily reduced in recent years. I happen to be the consulting engineer for the Interborough Co., of New York, and within the last 10 years our cost of power has gone down nearly 50 per cent, produced by steam.

Now, the only bearing that has on this is that this is not a case where there is such great possibility for improvement in the matter of water power as Mr. Fisher supposes. There is every possibility of improving proficiency of steam-generating apparatus, and that fact influences the investor who will put his money in the project.

Mr. RAKER. And that is not true of water power, you mean?

Mr. STILLWELL. Yes, sir. I was engineer for the Baltimore people when they were investigating the utilization of the Susquehanna. I made an investigation for them, and they were largely deterred by their feeling that the perfection of the steam turbine and possibly of the gas engine produced an element of uncertainty that they could not afford to face. Mr. Fisher had the wrong view about the possibilities of water power, because he did not have accurate scientific knowledge on that subject.

Mr. KENT. But even though they are getting 75 or 80 per cent of the full water power, is there no possibility of reducing the cost of the machinery and the transmission line?

Mr. STILLWELL. Yes, sir; there is. The cost of machinery has been coming down steadily and for overhead transmission lines such as you have in the West. It now costs $25 per kilowatt, while 10 years ago it would have cost twice that much. The progress of the art has also reduced the cost a great deal in the matter of transmission, but what we have saved has been eaten up by the fact that you have to go so much farther to your market. It has really not been reduced on the whole in view of this fact.

Mr. RAKER. In regard to the charging of a royalty by the Government, from your observation and the statement which you have made that there has been very little development in the West during the past five years, would you think it best to put it on such a basis that it would provide a revenue for the Government, or just make it a sufficient amount to secure the proper control?

Mr. STILLWELL. My judgment is based on an economic result to the people, and that is that a nominal rental is sufficient to secure the proper control.

Mr. RAKER. In other words, you believe the public would get better results from greater development of the water power, secure cheaper power, than they would from the revenue to be derived?

Mr. STILLWELL. I think so. Of course, if you impose a charge per horsepower which the proposition will not stand in its initial stages, that would be fatal. Another point that Mr. Fisher mentioned was a clause which he suggested which I believe if you had in the lease would kill the whole proposition, namely, the right and power of the Government to readjust the rental at intervals during the fixed period of the lease.

Mr. RAKER. That would be just as bad as a revocable term lease?

Mr. STILLWELL. Yes, sir; you could not finance it. At the best they must face local regulation, and that is some times not adequate. They do not scrutinize capitalization as they might, though it is getting increasingly strenuous, and if you superimpose another indefinite and unknown regulation, indefinitely fixing this rate, you could not find anyone willing to invest money in it. They would better go out and put their money in a real estate mortgage.

Mr. RAKER. Your view is that the amount fixed, whatever it is, should be nominal and fixed in advance, and remain during the fixed period of the lease?

Mr. STILLWELL. The main thing is that it must be definitely understood at the start; then, as an engineer, I could make my calculation and inform my client just what he could expect.

Mr. RAKER. From your experience in the West and your observation in the East with the plants that are in operation, is there any monopoly of any magnitude existing; and if so, what has been the occasion of it?

Mr. STILLWELL. I have not had a great deal of experience in the West in recent years. I was out there three years ago and looked over the situation in general; my impression is that I do not think there has been any oppressive monopoly. I do not know of any case where any community has been done any great harm. It is possible

in some cases that some of the promoters, the original men who are going in there, were able to get a very handsome return; but I say let them have it. The benefit to the community has been well worth it.

Mr. RAKER. It is coming down to a fixed science and should be regulated accordingly.

Mr. STILLWELL. As the art becomes older I agree that the matters of rental, capitalization, etc., should be subject to proper regulation by commissions or otherwise.

The CHAIRMAN. It seems to me we are on a very important matter there. Supposing that the lease be for a straight 50-year period, as was suggested by Mr. Pierce, then supposing at the end of the 25-year period, they have power to readjust rates, would a single readjustment at the midway period of 25 years strike capital as much as you think a general provision of that kind would?

Mr. STILLWELL. An adjustment of any kind at the end of 25 years would involve an amortization for the risk just the same as if you had a readjustment at 10-year intervals?

The CHAIRMAN. They would be afraid to issue bonds for a period greater than that, do you think? This would be in addition to that.

Mr. STILLWELL. I think it would be a very serious burden.

The CHAIRMAN. What do you think of the period of 50 years? Is that not pretty long?

Mr. STILLWELL. Well, I do not see any objection to it from the standpoint of the public. Of course, you provide here that the property must be taken at a fair valuation.

The CHAIRMAN. Still as it stands it provides taking over at the actual cost. Along the lines of Mr. Pierce's suggestion, the thought I had was that here we have a possible 200,000,000 horsepower in the United States, with only 6,000,000 in use now, approximately 3 per cent, and it appears that we have made such slight headway in the development of the total available, what might be a reasonable charge in 40, 50, or 75 years from now, we can not determine. Therefore we must do one of two things, either provide for a readjustment of rates or for a shorter period.

Mr. STILLWELL. Is not there a third alternate? That is, to do as has been suggested here, force the States to develop their public utilities and trust to them to protect their local public?

The CHAIRMAN. There would be a difference of opinion about that. I do not think, in my own mind, it would be practicable. As it is, the bill proposes to give to the State all of the net profits to be derived from these leases. Personally, if I followed my own inclination, I would make the rate extremely low, a very nominal sum, as the main thing is to benefit the ultimate consumer.

Mr. STILLWELL. With the scrutiny that the public utilities commission is giving these matters I do not think it is possible for the investor to get more than is coming to him.

The CHAIRMAN. There is another side of it, and that is if you make the bill so rigid and so serve that it would scare capital away, we would merely be helping those who are already installed with their power plants. In other words, the less competition we afford the consumer, naturally the better monopoly the men now in the business would have.

Mr. STILLWELL. Yes, sir; and unless you allow more money to be put into this development, the plant now existing would steadily be increasing in value.

The CHAIRMAN. And they would be able to charge a higher rate if they wanted to?

Mr. STILLWELL. Yes, sir.

Mr. RAKER. What would be considered a nominal rate, and how would you fix it?

Mr. STILLWELL. I would like to answer that question individually. Mr. Townly and I agree that we would not talk on that subject for the institute.

The CHAIRMAN. A nominal rate, a nominal rental charge?

Mr. RAKER. Yes, sir.

The CHAIRMAN. Do you mean just that?

Mr. RAKER. Yes; a nominal rental.

Mr. KENT. What you mean, Judge, is that you want to fix a nominal rental charge which must be supplemented by proper regulation as to price?

Mr. RAKER. Sure, that is the situation.

Mr. KENT. If we have a high rental charge the regulation will be more inconsequential.

Mr. RAKER. For the purposes of proper development of water power in the United States with a proper idea of control, what would be a proper charge?

Mr. STILLWELL. As I understand it, control could be maintained by the payment of $1 per annum. I was on the power committee of the recent conservation congress, and in a resolution they recommended a small annual charge. The use of the word "nominal" was suggested, but they could not agree about that.

Mr. RAKER. That answers that feature of it, but go ahead with the balance.

Mr. STILLWELL. I do not feel that I ought to express an opinion as to what would be a reasonable charge. It is just this way: It is a question of judgment, and you might say that it would be 25 cents a year per horsepower.

The CHAIRMAN. If the Government were a private citizen and owned a power plant, and he had no platonic emotions about it at all, but entirely mercenary, what would be a respectable, decent proposition in the way of annual charge per horsepower?

Mr. RAKER. That would depend whether it was Rockefeller or Peabody.

The CHAIRMAN. Suppose I owned 160 acres of land and had a water-power site on it which I wanted to develop; what, then, would be the price I would be justified in asking for the use of the power? Is there any precedent by which I could go?

Mr. STILLWELL. In that case you would be justified in charging just as much as you thought you could get.

The CHAIRMAN. For instance, the well-known rate on oil leases is one-eighth. That is the precedent almost everywhere; some get one-sixth and some one-tenth, but one-eighth is the usual rate. Now, most anyone could tell you what was the uniform rate as to coal; but I have no conception personally of what the proper charge would be in the case of water power, and if there are precedents I

would like to know what they are; what would be a decent price to ask?

Mr. STILLWELL. I do not know of any precedent that has been established by private individuals. Some of the foreign governments have worked out a system of charges, but from the standpoint of the purely selfish individual I know of no precedent to give you. But from a Government standpoint you might say 25 cents per horsepower per annum.

Mr. SINNOTT. Are there not cases where the land has been condemned and also the water rights?

Mr. STILLWELL. In this country, you mean?

Mr. SINNOTT. Yes, sir.

Mr. STILLWELL. Well, I do not know. I have not worked much in the West lately. I have been interested in the East in a number of these things.

Mr. SINNOTT. And the market value of the land and the water power has been the measure of damages. Would that give you any clue?

Mr. STILLWELL. Well, I do not know. It is too dangerous to try to fix such a figure. For instance, you take various cases in the West. In one case, they could stand, perhaps, 25 cents per horsepower, but for a case where the water-power development was remote from its market, 25 cents would be a very onerous percentage.

Mr. KENT. How often?

Mr. STILLWELL. 25 cents per year per horsepower.

Mr. KENT. Oh, I thought it was a minute, or something like that.

The CHAIRMAN. If an engineer, with the experience which you have had being engaged on great works of this kind throughout the country, and your employment as a consulting engineer, are unable to fix a rate which we should charge, how can you expect this committee to fix a rate that would stand the light of investigation?

Mr. STILLWELL. It is a big problem you have undertaken, and it is a very difficult one indeed. If you fix any rate other than a nominal rate it should be as low as possible; that is to say, it ought not to carry expense of only a very moderate amount. I have some figures here which I got this morning which show that the total number of power permits on national forests from the beginning of this work, according to this tabulation is only 110,000 horsepower.

Mr. KENT. Are those under revocable permits?

Mr. STILLWELL. Yes, sir; revocable permits.

Mr. KENT. It seems absurdly small.

Mr. STILLWELL. Of course, I believe the development would be much more rapid under this new law, but this is interesting to show how things have absolutely come almost to a standstill. There is about 6,000 horsepower per annum completed on the average.

The CHAIRMAN. Yes.

Mr. SINNOTT. Mr. Stillwell, on what theory do you say there is a limit to cheap power or more power than can be expected from the invention of new instrumentalities of development of power?

Mr. STILLWELL. On what theory?

Mr. SINNOTT. Yes, sir.

Mr. STILLWELL. From the fact that the very best steam-turbine boiler we have now gives only about one-eighth of the theoretical energy of the actual potential energy in the coal; that is, you get

about one-eighth of that in the electricity you get. In some plants we hope to get one-sixth. That is the reason I make that statement, because it is hoped that the efficiency of the steam turbine will be so improved that the reduction in the cost of production will be very much lower in the years to come.

Mr. SINNOTT. Do you view that question, looking into the future, in the light of inventions that might take place?

Mr. STILLWELL. Yes, sir; but the point I wished to make was that a man who is going to put his money in the development of water-power resources will run a much greater risk than the one who puts his money in the steam plant, where there are many possibilities for improvement. There is no such chance of improvement in water-power development as there is on the steam side. That is the point I wished to make.

(Thereupon, at 6.05 p. m., the committee adjourned to meet at 10 o'clock a. m. to-morrow, Saturday, May 2, 1914.)

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Saturday, May 2, 1914.

The committee met at 10.15 o'clock a. m., Hon. Scott Ferris (chairman) presiding.

The CHAIRMAN. The committee will be in order.

There were present before the committee Mr. Gifford Pinchot, president National Conservation Association.

The CHAIRMAN. Mr. Pinchot, will you enlighten the committee on this water-power question at this time?

STATEMENT OF MR. GIFFORD PINCHOT, PRESIDENT NATIONAL CONSERVATION ASSOCIATION.

Mr. PINCHOT. Mr. Chairman, the first thing I would like to say is that this bill seems to me, with a few amendments which I should like to propose later, an admirable measure, and the National Conservation Association is strong for the passage of it. With that statement, I should like to proceed to a discussion of the water-power question.

The water-power policy has developed in the United States along three entirely separate lines, lines to which, however, the same general principles apply: First, the water-power question in the national forests: second, the water-power question on the public domain; third, the water-power question on navigable streams.

It was on navigable streams, the majority of which are in the eastern and central part of the United States, that the water-power policy first became a great public question. It was brought up and made a public question first by the James River and Rainey River vetoes of President Roosevelt, based on the theory that rights on navigable streams should not be given away in perpetuity, and that a charge should be made for the valuable consideration given by the public to the water-power men. That has called wide public attention to the water-power question.

It was, however, on national forests that the water-power policy was first developed. It is now eight years since the Forest Service completed and applied a specific and definite water-power policy in the case of the Edison Co. in Southern California. The Ferris bill, with hardly an exception, is in exact accord and with the water-power policy developed at that time in connection with that company. Since then the power policy in the national forests, so far as it could be developed under existing law, has been in actual and successful effect.

It was on the public domain that a power policy was defined by the Interior Department some six or seven years after a policy was inaugurated for the national forests.

In all three of these lines the same general policy ought to obtain. That is, there should be no grants in perpetuity; there should be compensation for the rights given and there should be an absolute prevention of the holding of water-power rights for speculative purposes. In other words, in accordance with an outline which I have here, prepared for the National Conservation Association by Mr. Wells, its former counsel, water-power development should be prompt; water-power sites should be developed and not held for speculative purposes; cheap and uniform development should be the rule; and large, quick profits should not take the place of moderate profit. The rich cream should not be skimmed to the exclusion of less desirable projects. In the development of water power, a stream should be considered as a unit from the source to the mouth, in order that the full value of the stream can be applied to human needs in a way that will most serve the public benefits.

All of the above standards should be reasonable, in view of economic conditions and business possibilities.

The reason I wanted to emphasize what I have just said is that the development of a power policy has been proceeding along all three lines and there has been no discrimination, as I have heard it intimated there was, on western power questions as differentiated from eastern power questions. It is true that the national forest questions are all in the West, while the navigable stream questions are mostly in the East, but the development of a power policy along those lines has been going on together.

Now, as I see it, the essential danger in the water-power problem is the concentration of ownership and control. As shown in the report submitted to the last conservation congress last November 10 groups of power interests control 65 per cent of all the developed commercial water powers in the United States, and some of these groups are still further related by interlocking directors between the groups and in other ways.

Now, I want to give a few figures as to the amount and rapidity of this concentration. Two years ago the 10 greatest groups of water-power interests controlled in round numbers 3,270,000 horsepower, developed and undeveloped. To-day the 10 greatest groups control 6,270,000 horsepower. Thus the amount of concentration has nearly doubled in two years. This is developed and undeveloped waterpower.

I will now state the condition in connection with undeveloped power, and contrast the undeveloped power with developed power.

In 1911 the 10 greatest groups had developed and under construction 1,821,000 horsepower, in 1913 it was 2,711,000 horsepower, in round numbers, an increase of nearly 900,000 horsepower. In 1911 the 10 greatest interests held undeveloped 1,450,000 horsepower. In 1913 this had risen to 3,500,000 horsepower, an increase of over 2,000,000 undeveloped horsepower between 1911 and 1913.

These figures show that in the last two years the great power interests have increased their control of power held undeveloped more than twice as fast as they have increased their control of developed power.

Now, I would like to submit some further figures bearing on the concentration of undeveloped power, and the apparent purpose of the water-power interests for concentrated control rather than development, which I think is important. In 1908 the total developed water power in the United States was 5,400,000 horsepower in round numbers, and in 1913 it was 7,000,000 horsepower, an increase of 33 per cent of five years. In 1908 the 13 greatest groups of interests controlled a total of 1,800,000 horsepower, developed and undeveloped, while in 1913 a smaller number, 10, of the greatest groups controlled a total of 6,300,000 horsepower, developed and undeveloped, an increase of 240 per cent. That means that the concentration of water power undeveloped has increased in the last five years about seven times faster than power development.

So much for concentration of actual horsepower. There has been going on at the same time with this concentration in ownership of water powers, along parallel lines but to a more considerable extent, a great concentration of public-service corporations using water power. I mean lighting companies, heating companies, railway companies, and so on. I am sorry to say that I have not the figures of that with me, but I will have a partial statement submitted later on if the committee desires.

The CHAIRMAN. I hope you will do that.

Mr. PINCHOT. The essential fact is that the water-power companies are going into public-service development, and that groups of companies, like the Stone & Webster interests, are acquiring immense control of public-utility corporations all over the United States subsidiary to the development of water power.

The CHAIRMAN. Is there any reason why the names of these companies should not be furnished for the record?

Mr. PINCHOT. Not at all.

The CHAIRMAN. I would like to have that put in.

Mr. PINCHOT. These are groups of interests like, for instance, the General Electric group, the Stone & Webster group, etc.

The CHAIRMAN. It was asserted here yesterday that there was no such thing as a monopoly of horsepower, and the general gauge was thrown down here to name a specific case. For that reason I would like to have that information.

Mr. PINCHOT. I will be very glad indeed to submit those facts. And you can take also, if you like, charts showing the relationships of the smaller companies to the larger companies, making the concentration plain. The figures I will give you are based in part on official statements of the Bureau of Corporations and in part on more recent investigations to bring these figures up to date; but they were made

public last November, and, as far as I know, the actual figures have not been denied.

(The figures referred to will be found as Exhibit E in the appendix.)

There is one more matter I should like to speak of, and that is the question of compensation. The statement was constantly made at the time the Forest Service first required compensation from power companies for the very valuable rights which they got from the public, that the charge made by the Government to the companies would simply be carried on over to the consumer and that the general public, therefore, would not benefit; that the effect would be simply to take that charge from the consumer and give it to the Government. There are a number of reasons why, in my judgment, that is not so. In the first place, if the power companies had believed that they could simply transfer this charge to the consumer without loss to themselves, the opposition which they made to the charge would have had no good reason for being made. It would have cost them nothing.

In the second place, the charge for water power is not fixed by the cost of producing the power from water, but by the competitive production of power from coal, and there exists a sort of neutral zone between what it costs to develop power from water and what it costs to develop power from coal, in which the public can get its rights only by a charge at the source. In other words, because there will not be in any one region water power enough to supply all the demands, the water power must constantly be in competition with steam power. You can not say to a certain user, "You must pay only what water power is worth," and to the man next door, "You must pay only what steam power is worth." The charge to the public is made with reference to the charge for steam power. I am not sure that I have made that clear, but the case has been made perfectly clear by the Commissioner of Corporations in his report.

The CHAIRMAN. His annual report for this year?

Mr. PINCHOT. No; in the report printed March 14, 1912.

The CHAIRMAN. Do you have it here?

Mr. SLATTERY. Here is a copy of it.

The CHAIRMAN. How much of that is devoted to this particular question?

Mr. SLATTERY. In all probably six pages; but you could get the essence of it probably in two or three pages.

The CHAIRMAN. I would like to have it go in right at this point.

Mr. PINCHOT. Will you let me put in this statement from the Commissioner of Corporations?

The CHAIRMAN. Without objection, it will go in.

(The paper referred to will be found as Exhibit F in the appendix.)

Mr. PINCHOT. Now, Mr. Chairman, may I proceed with the items of the bill itself?

On the first page, the first provision I would like to mention is that which turns the charge of the water powers in national forests, national monuments, military and other reservations outside of the public domain, over to the Secretary of the Interior. That provision is, to my mind, an exceedingly unfortunate one, since it utterly

destroys the policy that has been established, so far as the national forests are concerned. There is very much more water power in the national forests than there is in the public domain. The policy of Federal Government control of water power was developed entirely in the Forest Service and was applied in the national forests at least six years before the attempt was even made to approach the subject in the Interior Department. There is a complete and well-developed policy actually now in operation in the Forest Service, and to take that out from under the control of the national forest officials and put it under the control of another department would result, in my judgment, in an exceedingly cumbersome and bad administration, in a necessary duplication of force, and in great loss of efficiency. There is already in the Forest Service and available for the inspection and control of water rights a force which must be there anyhow. To put this matter in the hands of the Secretary of the Interior would require a considerable additional force, with very much greater expense, if it attempted to do what is already being done to entire satisfaction, from the Government's viewpoint, by the officers of the Forest Service who already are required to undertake this work. You could not save a single man in the Forest Service by transfering this work to another department; whereas you will have to have a great many more men in the Interior Department to put it into operation.

The CHAIRMAN. Right at that point—this is a thing that has confused me. For instance, here is the War Department operating on the navigable streams of the country, and a bill has recently been introduced—the Adamson bill—to give the Secretary of War power to control erection of dams across navigable waters, and here is this committee considering a bill which has to do with the dam sites located upon property of the United States. Now, would it not seem to be more cumbersome rather than less cumbersome to have two departments dealing with the Government lands; one department dealing with the nonnavigable streams, and the other with navigable streams, rather than having one department to handle both of them? For my part I would rather see one department handle it all, so that they could handle a well-trained corps of experts who understand this water-power problem and are able to handle it as it should be handled. The ordinary layman knows little of this problem. In fact, I am in a state of haze all the time about some of these questions. Now, it seems to me that the ordinary Forestry Bureau official, the ordinary Interior Department official, the ordinary War Department official, would not, as a necessary asset to their other duties, know anything about water power, and it seems to me this question is so transcendently important that if it could be all centered in one department, whether in the Agricultural Department, the Forestry Department, or the War Department, it seems to me it ought to be some place where Congress would know just whom to deal with and who should be held responsible, rather than having this scattered administration.

Mr. PINCHOT. I think the question, Mr. Chairman, in that matter would be apparent rather than real. You have got such very large units to handle, for instance, 300,000,000 acres of public lands——

The CHAIRMAN (interposing). Nonreserved lands, 330,000,000.

Mr. PINCHOT. Call it 300,000,000 acres. That is an enormous area, bigger than almost the original 13 States. You have a force which is already charged with handling questions on the public domain. They have got to handle these questions, no matter whether they have control of water-power dams or not, and you add another duty to a force which is already occupied in handling an area big enough and important enough to require their entire attention. In the national forests you should have one man in charge of the whole administration of the problem; it should be administered under a single head—the forest supervisor. Questions will come up to him with relation to the cutting of timber, of these permittees' rights of way and of forest protection, for there are a large number of questions that can not be handled by anybody else and which will require him to be constantly in contact with these permittees in the other department practically as much as if they were permittees in his own department.

Now, what this bill proposes is not to maintain the existing successful order of administration of the forests, but it is to break up that existing successful order and turn it over to another department which is unfamiliar with the problems of the national forests and which can not become familiar with them for many years, because it takes many, many years to become familiar with problems over so large an area as that, and my judgment is you will increase the expense and reduce efficiency.

The CHAIRMAN. Still, in the last analysis, of course, the Interior Department is the only department now to convey title, and even in the agricultural forests, when men come in to make homestead entries, they have to make them through the Interior Department, which means a more or less dual administration.

Mr. PINCHOT. There is a perfectly clear-cut line, though, between the two things. The Interior Department deals with everything which has to do with the final disposition of patents, the Agricultural Department deals with everything that is not the final disposition of patents or the final disposition of title.

The CHAIRMAN. But these leases that call for such enormous expenditures of money, and which it is estimated will rise to such overshadowing importance and value, will approach it pretty closely in importance.

Mr. PINCHOT. Perhaps the best answer is what is going on now. To show how successful the present administration has been, there are 78 water powers developed on the national forests, 30 under construction, and 76 of 728,300 horsepower capacity at low water, for which permits have been issued in the last two years. In other words, about one-third as much as the total developed horsepower in the United States has been developed or is under process of development and under contract in the national forests. Of course, these figures are valuable on the questions as to whether or not Government control hampers development. I am not using them for that purpose now, however, but merely to show the development that has taken place.

The CHAIRMAN. What period of time has that development you refer to extended over?

Mr. PINCHOT. About eight years.

The CHAIRMAN. In the last eight years on the forest reserves—the figures you gave are authentic?

Mr. PINCHOT. With the exception of some powers that were completed before that time.

The CHAIRMAN. But they have all been completed since 1901, of course, have they not?

Mr. PINCHOT. No; there were some power plants constructed on the national forests under the old laws.

The CHAIRMAN. Where title was acquired by private ownership. Are those figures you have just given us the development that is actually occurring on the public lands?

Mr. PINCHOT. On the national forests.

The CHAIRMAN. Some one here yesterday charged that there had been no development within the public lands in recent years.

Mr. PINCHOT. These are official figures of last October, and you will be able to get from the Forest Service further figures if you desire. My point is that 78 permits, comprising a total capacity of over 1,000,000 horsepower at low water, have been issued by the Forest Service in recent years under conditions requiring prompt development.

The CHAIRMAN. Do you have with you, in order that we may put into the record at this point, the form of contract that goes with a permit, showing the conditions contained therein?

Mr. PINCHOT. Mr. Merrill is here and can probably supply that.

(The paper referred to will be found as Exhibit G in the appendix.)

Not having power under the law to give a permit for over 50 years, the Forest Service resorted to giving revocable permits, with the general idea that the succeeding Secretaries would respect them, although they had legally no right to expect it, and it is under those conditions that this development has taken place of three-quarters of a million of horsepower at low-water mark. The actual development will be three times that amount.

I want to put myself very vigorously on record against the wisdom of making this transfer of jurisdiction in the national forests from a department that has proven its capacity to handle the matter to another department that is unfamiliar with it.

Mr. STOUT. You think it should be all under the Agricultural Department?

Mr. PINCHOT. No; I think it would be a great mistake to put it under the Agricultural Department. The minute you put any part of this in a department which has no jurisdiction now over the area involved you create a need for additional appointments and you increase the difficulty, and, above all, you require men to handle conditions that necessarily they can not know as well as men who are familiar with those conditions.

Mr. KENT. Do you not believe that we can look forward to a national commission that will eventually take all of the things and handle them themselves?

Mr. PINCHOT. I should be very strongly in favor of the plan that the administration of everything that did not have to do with the final disposition of title in the national forests should remain under the charge of the men that have other things to do in the national forests. Any other arrangement would be just like requiring a man

living in a city, for instance, to handle the disposition of certain things on a farm, while the farmer himself handled the other things. The man in the city would have to be sending an agent up there to deal with the things with which he is charged, instead of having the farmer on the ground handle it.

Mr. KENT. Would not that argument go against the whole proposition of public utilities commissions, generally?

Mr. PINCHOT. I see no good reason why we should have a general public utilities commission to handle everything for the Government.

Mr. KENT. Things like water powers, oil, and coal—would it not be natural to suppose that the time is coming when we will have a general commission to exercise discretion which is now left in the hands of the Secretary of the Interior?

Mr. PINCHOT. I can not see any advantage, unless you transfer the whole management of the public lands in the national forests and navigable streams to that body, and let them take little pieces out of the administration which has the individual resources and let them handle that.

Mr. STOUT. I think you misunderstood my question. I asked you if you thought it should all go into the Agricultural Department?

Mr. PINCHOT. No, I do not. I think that the administration of water power on land in charge of the Interior Department now should remain there, and those in charge of the War Department should remain there.

Mr. RAKER. Would you make any distinction as to handling these, whether or not there were any laws in the State providing for a public utilities commission?

Mr. PINCHOT. I do not get the bearing of your question.

Mr. RAKER. Your contention was that all of these should remain in the Forest Service, but as soon as the State has provided by law for public utilities commission, you would turn over the question of rates and charges for service to that State, would you not?

Mr. PINCHOT. The Forest Service has never controlled the rate and charges to the consumer. That is a State matter. In other words, the organization of a public utilities commission in the States would not affect the administration.

Mr. RAKER. Has not the Forest Service fixed the rate?

Mr. PINCHOT. Never to the consumer.

Mr. RAKER. None whatever?

Mr. PINCHOT. Never.

The CHAIRMAN. In regard to that 50-year period, it has been suggested that unless that was made mandatory it was a question whether they could finance the project at all.

Mr. PINCHOT. My understanding would be that under the language of this bill the Secretary in charge, whoever he may be, would have authority to deal with the individual company and set a period that would be satisfactory to the Government in each individual case, which would not exceed 50 years.

The CHAIRMAN. It has been suggested here by some of the parties appearing that that ought to be made 50 years definitely, and that any shorter period would make it impossible to finance the concerns and borrow money and issue bonds and fully develop the project.

Mr. PINCHOT. I should say that this would mean 50 years, anyway, but I think that in every bill of this kind, in making the actual deals

to be determined by contracts between the company and the Government, I would leave the Secretary of the Interior just as free as a private individual, if I could.

Mr. RAKER. Under this bill he could give them 10 years if he chose, and they could not get any more than 10 years if the Secretary of the Interior so determined.

Mr. PINCHOT. Yes, but he would not have to take it.

Now there are a few small changes that it seems to me should be made in this bill. On page 2, lines 8 and 10, I think the word "park" has been left in by inadvertence.

The CHAIRMAN. That should go out, undoubtedly.

Mr. PINCHOT. In lines 12, 13, and 14, page 2, "the Secretary of the Interior may, in his discretion, give preference to applications for leases for the development of electrical power for municipal uses and purposes." I would like to put in there "by municipalities for municipal uses and purposes." I think a very large proportion of these powers will get into municipal hands after the end of the 50-year period.

Then, on the same page, lines 15 and 16, "That each lease made in pursuance of this act shall provide for the reasonable development." I would like to insert there "provide for the prompt, orderly, and reasonable development," in accordance with the outline of policy submitted at the beginning. Enormous holdings of undeveloped water power by the big water-power interests make it very desirable, I think, that prompt development should be insisted on. Then, in the same section, lines 16 and 17, "continuous operation of the water power." That should be made, I think, "subject to market conditions." I do not think it is fair to insist that the companies should continuously operate in case market conditions were unfavorable.

The CHAIRMAN. We thrashed that question out pretty well in the coal and oil bill, and we came to the same conclusion then that you now suggest, because it would be impracticable, undoubtedly, to force them to run when they had no demand for power.

Mr. JOHNSON. Would not that apply also to the development of any stream of water containing a large volume or more than a market existed for, in requiring it to be all developed?

Mr. PINCHOT. There are two or three reasons why that should be put in.

Mr. THOMSON. You would not require them to develop it all promptly?

Mr. PINCHOT. No; only what the Secretary of the Interior required them to develop promptly; but you would prevent them from holding the powers for speculation.

Mr. KENT. Do I understand that when you inserted "prompt, orderly," you left in the word "unreasonable"?

Mr. PINCHOT. Yes; I did.

Then, I would like to raise the question whether in line 21, section 2, it would not be well to add that the lease shall provide also against excessive capitalization? I am not clear about the form of words, but I would like to give you one illustration of what takes place. I am informed that one of the large groups bought up all the water power in Montana about a year and a half ago. They paid about $14,000,000 for it and promptly capitalized what they had paid $14,000,000 for at $100,000,000, which means, of course, a very heavy

charge on the cost of living and on the people who are served by these powers. I think this bill might well provide against anything of that kind.

In section 3, "That in case of the development, generation, transmission, and use of power or energy under such a lease in a Territory or in two or more States, the regulation and control of charges for service to consumers," should you not have in there, "service and charges for service"?

Mr. KENT. That has been suggested.

Mr. PINCHOT. I have no definite suggestion to make, but I think it ought to be considered, because they are frequently in a position to discriminate between consumers, and often do, especially between large and small consumers—and often with good reason; sometimes, also, without good reason—and it might be practicable to make that clause read, "regulation and control of service and charges for service to consumers without unfair discrimination."

The CHAIRMAN. There is a little attempt to do that in line 20, you will observe, Mr. Pinchot, in the preceding section 2, inasmuch as we did limit it to not more than 50 per cent of the total output.

Mr. THOMSON. Will not the whole situation be comprehended in the wording, "regulation and control of service"?

Mr. PINCHOT. Yes; I think so. I merely wanted to bring the thought up. I am not clear that it ought to go in.

The next suggestion I have to make is on page 3, line 3:

Provided, That the physical combination of plants or lines for the generation, distribution, and use of power or energy under this act or under leases given hereunder may be permitted in the discretion of the secretary, but combinations, agreements, arrangements, or understandings, express or implied, to limit the output of electrical energy, to restrain trade with foreign nations or between two or more States or within any one State, or to fix, maintain, or increase prices for electrical energy or service is hereby forbidden.

There is no penalty attached there.

The CHAIRMAN. There is in the general regulation at the end, I think.

Mr. PINCHOT. I do not know whether that would apply here.

The CHAIRMAN. That is the forfeiture provision in section 12.

Mr. PINCHOT. If that applies here, then my point is not well taken.

The CHAIRMAN. We started in to put in a criminal provision there, but abandoned that and put it instead in the forfeiture clause.

Mr. PINCHOT. That disposes of that situation then.

In line 6, page 3, would the word "unlawful" before the word "combination" help the meaning there at all?

The CHAIRMAN. That would be even more generous to the power people than this, inasmuch as a combination that is not unlawful might be so oppressive and so heavy-handed that it might be advisable to stop it.

Mr. KENT. There would also be confusion as to the word "unlawful" as to whether it meant unlawful under a State statute or under a Federal statute, or where.

Mr. PINCHOT. Combinations must take place of certain kinds, such as "tieing in" a plant.

Mr. THOMSON. This refers to combinations to limit the output or restrain trade. Such combinations as you just mentioned are not comprehended in this language at all, are they?

Mr. PINCHOT. I presume that in some cases they are. It depends upon the combination between the two plants, and elsewhere in the bill the Secretary is authorized to permit that under certain conditions.

The CHAIRMAN. Adverting to the suggestion I made a moment ago, the general forfeiture clause occurs on page 8, section 12, and states that a lease shall be subject to forfeiture for violation of any of the conditions of this act or with the conditions recited in the lease.

Mr. THOMSON. Will you pardon me there—my understanding, Mr. Chairman, of this language that Mr. Pinchot is talking about on page 3 is that all combinations or agreements are not forfeits, but only such as limits the output of electrical energy or restraints trade or tends to fix, maintain or increase prices. Those are the only combinations prohibited here, and combinations such as you spoke of a moment ago would not be a violation of this language.

Mr. BROWN. Was it your suggestion to strike out lines 3, 4, and 5?

Mr. PINCHOT. Oh, no; I was merely raising the question whether you should put in the word "unlawful" before the word "combinations," but from what you gentlemen say, I think it would be inadvisable.

There is a question in section 4, raised by the necessity to get money, and I have wondered whether it would be advisable to make that section read:

That no lease issued under this act shall be assignable or transferable except by trustee or mortgage issued for the purpose of financing the project.

The CHAIRMAN. You are following pretty closely the suggestions made by Mr. Pierce, who appeared here yesterday. That would help them in enabling them to finance and probably will be necessary. For instance, he suggested this, on page 3, section 4, line 13, beginning with the word "and" strike out the rest of the section and inserting, "except by mortgage to any transferee or lessee," striking at the same question which you have.

Mr. PINCHOT. I should be very strongly opposed to the striking out of the rest of that clause, for the reason that the sale to a distributing company might often be used to free the companies from all sorts of regulations.

Mr. THOMSON. May I ask a question there? If such assignments or transfer as you have in mind might be desirable for financial purposes, would it not be possible under the last line, line 15, upon consent of the Secretary of the Interior, and under such circumstances might he not consent to it?

Mr. PINCHOT. Yes. It is a question as to what time the transfer would be made, and so forth. I do not know whether that would cover it or not.

Mr. RAKER. Let me call your attention to this language (reading):

SEC. 8. That no property or project installed and operated under the provisions or benefits of this act shall be assigned or transferred except upon the written consent of the Secretary of War, except by trust deed or mortgage issued for the purpose of financing the business of such owner, and any successor or assign of such property or project, whether by voluntary transfer, judicial sale, or foreclosure sale or othewise, shall be subject to all the conditions of the approval under which such rights are held, and also subject to all the provisions and conditions of this act to the same extent as though such successor or assign were the original owner hereunder.

Ought not that to be in a bill of this kind that the man could mortgage it or give a trustee, and those who got it should comply with the rules and regulations, so as to give an opportunity to properly finance the project?

Mr. PINCHOT. I should have to read that carefully and get the exact meaning of it before I said yes or no to it.

Mr. RAKER. That is section 8 of the Adamson bill. This is more liberal than the one in this bill and even more liberal than the one suggested by Mr. Pierce—I mean this on page 8 of the Adamson bill—because they are all very fair. It would seem that it requires a good deal to start a plant, and therefore a man should be permitted to give a mortgage or trustee and then with the restriction on the purchaser after the sale by the trustee, the foreclosure sale, he complies with the rules and regulations and protects the public and it gives an incentive to development at the same time.

Mr. PINCHOT. In section 5, line 16, I raise the question there whether one year's notice is not sufficient?

The CHAIRMAN. May I suggest there my thought was if they did not have more than one year's notice they might not have time to negotiate their succeeding contracts for power and make the necessary improvements in the machinery that they otherwise would make, and that it might have the effect of their letting their machinery run down, for the reason that they would not know whether they would have the lease again.

Mr. RAKER. Did the same parties assist in preparing this bill and the Adamson bill?

The CHAIRMAN. No; that is the War Department bill.

Mr. RAKER. They have one here in the Adamson bill.

Mr. PINCHOT. There is a provision in section 5 which, it seems to me, is of the utmost value and importance, and that is that which requires the taking over of the property at actual cost of rights of way, water rights, lands, and interests. That is, it prevents the company from charging unearned increment in property of that sort against the public.

The CHAIRMAN. May I suggest there that we have not been able to get unanimous agreement on the part of the power people, who appeared here as to that provision.

Mr. PINCHOT. I regret that I differ from the power people, but I think this is an admirable provision and should be maintained in the bill.

The CHAIRMAN. Right while we are there, arguments have been made here, which have made quite an impression on some of us, that undoubtedly the property they get from us we ought to have the right to take over without an unearned increment, but as to property that they bought independently from us, from sources wholly foreign from us—from the Government—they feel as to that property that they should have the enhanced value there. But, of course, the committee may well recognize that it is largely an important part of this bill that the Government be able to recapture the property. If the conditions are so onerous that it is impossible to recapture it, then it becomes a grant in perpetuity, and if the conditions are favorable enough so that the Government can with feasibility and economy recapture it, it does not become a grant in perpetuity, but it becomes

a lease for a term of years. But they have made a strong appeal that so long as the property on the outside that they have acquired from other sources, from private ownership—they feel that it works a hardship, to the extent that they might be forced to allow that property to be retaken with the property that we leased to them, not at its enhanced value, the increased value, but at its actual cost.

Mr. PINCHOT. It seems to me their contention runs contrary to the whole trend of modern treatment of corporation question, which is to prevent the community from having to bear again the cost of the unearned increment which the community has created.

The CHAIRMAN. Suppose we had a disputed question of fact as to whether the community did create it, or whether the power company created it? Of course, these bleak hills in their natural state do not create much of anything; so it is first a case of capital going in and later people, and the two together creates the value, and so I suppose there would be some controversy as to whether the people did it, or the power company did it.

Mr. PINCHOT. On the other hand, while the coming of the power company increases the life of the community, still it is the growth of the community that makes the increased value of real estate.

Mr. BROWN. But if they did not develop it, there would not be any community there.

The CHAIRMAN. Of course, you can twist that question around and look at it from both ends and make the argument either way.

Mr. RAKER. Just as part of the matter that was before the committee yesterday, in which the gentlemen appeared—I see that they all agree with the provisions in the bill known as the Adamson bill; that they pay a fair value for all the property acquired outside of the Government and pay the cost of that which is acquired from the Government. That is the language of the Adamson bill, section 10.

Mr. PINCHOT. I am sorry to say that I have not had an opportunity to study the Adamson bill yet.

Mr. RAKER. We are just on that feature, and I want to call your attention to it now, that all the property acquired otherwise than from the Government the party would be paid a fair value of such property that is included in the operations of the plant necessarily, and then they are paid the cost of that which they get from the Government. In other words, the Government shall pay the cost that the company originally gave to the Government for its rights.

The CHAIRMAN. Now, let me ask you a question. Let us take the thought in the Adamson bill for the moment and say that a company had a lease for 50 years for 10 acres of ground, which embraces a dam site, and let us say they then buy up much other land to complete their plant, and they have secured rights of way, etc., which they got for little value—which they would ordinarily get for a small price. Now, if that power plant grew to such an enormous extent, as I think power plants will grow—I think that is the biggest question in this country—I think the tariff and the currency and everything else shrinks into insignificance beside the proposition of developing and haltering and bridling and saddling the water powers. It is not to-day or to-morrow, but forever. Now, if the use of electricity and electrical power, which is in its infancy, should grow to the extent that we believe it will—we can hardly realize the

extent of its growth and value—would we be safe in adopting for a moment the Adamson provision, or would we be safe in adopting the views of the power people who have appeared here? The growth of the business might become so enormous that the Federal Government could not with economy or with any sort of feasibility recapture or retake the property. And right there arises the proposition as to whether or not the Federal Government can ever recover the property, or will we give leases away so favorable to them that we can get it?

Let me give you an example of this thing. In our State we lease our school lands. Congress, when they gave us our school lands, gave the preference right to the lessee. They said he should have the preference right of it. What happened? The lessee immediately sets out so many trees on the farm and does so much improving on the farm that no other man would want to buy that place and he gets it without competition. Now, if we put conditions around a lease which make it possible for them to get all the unearned increment, the thing may get so valuable, may grow to such proportions that no government would be justified in retaking it. Then we have defeated the purpose that we all had in mind.

Mr. KENT. In addition to that, if rates were to be based upon the value of the property, the people forever would have to pay an exorbitant price, based on the valuation.

Mr. RAKER. Might I, in this connection, answer that? I think the illustration of the school lands section, if carried out as the chairman stated it—if we found a man with energy and brains enough to buy trees and plant them, he is entitled to his reward for that. He has no monopoly, he is beautifying the country and adding to its wealth, and if the Government wants to take it, or anybody else wants to take it, they should pay the fair value for it.

Now, on this question, if a man goes out into the country and develops a water power, gets a lease from the Government, and purchases other land and gets his water ditches and water right, while I am in favor of giving the public absolute service to prevent monopoly—giving the Government a chance to control it—I can not see my way clear that we, by legislation, ought to confiscate a man's property, by this kind of legislation, any more than we should any other man's property by saying, "Here, you have built up a large property and made it valuable, and now we will simply give you what you paid for it."

The CHAIRMAN. Now, let me put another question to you. I own an humble 160 acres of land in Oklahoma. I lease it to you for 10 years. The day I lease it to you it is worth $3,000; the day your lease expires, from your proper compliance with the terms of the lease, that land has developed into a farm worth $10,000. Do you keep the $7,000 and return the $3,000, or do I get the $10,000 farm back?

Mr. RAKER. You would get a $10,000 farm back, and, in the meantime, if I am a provident farmer, if I am doing my duty, I am getting my pro rata out of the farm.

The CHAIRMAN. So are the power people getting theirs, and more, too, probably.

Mr. PINCHOT. I would like to inject a statement there that I have never heard anything said with quite as much pleasure as your state-

ment of the importance of this power question just now. I think you have hit the nail absolutely on the head, that it makes all these other matters look insignificant. In the national forests alone there are 14,000,000 horsepower possible of development, twice as much as the developed horsepower in the United States now; and the size and grip of the control which could be exercised by the power people, unless they are properly restrained by the Government, over every phase of activity makes this water-power question, as has been said over and over again in official reports, as important as anything can well be.

Now, if we can turn to the bill. I am a little doubtful whether—you will pardon me for raising a number of questions that I am not myself able to answer—I am a little doubtful whether the terms of the bill leave a period between the time when the Government proposes to take over the plant and the time it can take it over, during which the plant might possibly not be in the ownership of anybody.

The CHAIRMAN. Might I suggest that the entire committee, I think, and the departmental officers have all agreed that that must be provided for? I think that undoubtedly has to be remedied.

Mr. PINCHOT. Then in the last clause of section 5, page 4 [reading]:

Provided, That such reasonable valuation shall not include or be affected by the value of the franchise or good will or any other intangible element.

Would that include profits in contracts pending?

The CHAIRMAN. What do you say about that, Mr. Finney?

Mr. FINNEY. That is not intended, because there is a provision in the bill elsewhere that provides that contracts may be made for more than 50 years, and whoever takes it over must assume those contracts.

Mr. KENT. In paying for the property those contracts should be paid for.

Mr. FINNEY. Yes; but the successor undertakes specifically to fulfill them.

Mr. RAKER. The Adamson bill provides, on page 10, beginning with line 5:

In the determination of the value of said property upon the termination of said grant as above provided no value shall be claimed by or allowed for the consent hereby granted, nor for good will, profit in pending contracts, nor other conditions of current or prospective business.

Is that the idea you were trying to present?

Mr. PINCHOT. Yes.

Mr. THOMSON. That language does not allow anything for the pending contracts, does it?

Mr. RAKER. No; it does not allow them any profit on the pending contracts; they take them without any profit on pending contracts, "nor other conditions of current or prospective business."

Mr. THOMSON. I understood you to say that pending contracts should be taken into consideration.

Mr. PINCHOT. Not that the company should be authorized to collect profits in a pending contract when they did not render any service. They ought to have profits on contracts when they have rendered the service, but not otherwise.

Mr. FINNEY. I think possibly it might be well to modify that line to make that point perfectly clear.

Mr. PINCHOT. I will now proceed with the bill, with your permission.

In section 8, after the proceeds from power development have gone to the reclamation service and one-half has been paid back by the reclamation service, as I understand it, half of that goes to the State in which the power plant is located and half to the Treasury of the United States. I would like to suggest there the use of the following language:

The remaining fifty per centum shall be covered into a special fund to be expended for irrigation and navigation purposes within the State or States whence the revenue was originally derived.

That is, the remaining 50 per cent which would otherwise go into the Treasury.

The CHAIRMAN. It would really go into the reclamation fund, would it not?

Mr. STOUT. I should think it would.

Mr. KENT. It would go into the reclamation fund, and ultimately it would be paid back to the State in which the power was developed.

The CHAIRMAN. I think you are right in the last analysis, if we could assume that we would get ultimately all the reclamation money back; but if you will read that a little carefully you will observe that it remains in the reclamation fund.

Mr. PINCHOT. The other 50 per cent remains in the reclamation fund, but 50 per cent of it goes to the Treasury.

The CHAIRMAN. It does not go to the Treasury; it goes to the reclamation fund.

Mr. PINCHOT. It remains part of the reclamation fund indefinitely?

The CHAIRMAN. Yes.

Mr. PINCHOT. I thought it went back into the Treasury.

Mr. RAKER. In your view of it, when it ceases to be used for the reclamation fund, does it not go into the National Treasury?

Mr. PINCHOT. According to the chairman, it will not come out of the reclamation fund, but will be part of a revolving reclamation fund permanently available.

Now, there may be two or three other small points, but I will not trouble you with any further sections.

The CHAIRMAN. Will you look at that repeal section, section 14? We have had some discussion about that by some of the parties. Ex-Secretary Fisher was here, and he thought no great harm would come if we did repeal that revocable permit, 1901 provision; and others thought perhaps it would be an unwise thing to do that. Then, of course, there is a question as to the construction as to whether or not it is inconsistent.

Mr. PINCHOT. I would rather not express an opinion about that. Mr. Wells can probably give you more information on that than I can.

The CHAIRMAN. Are there any members of the committee who desire to ask any questions of Mr. Pinchot?

Mr. RAKER. I would like to ask a few questions.

Mr. PINCHOT. Might I ask one favor here, Mr. Chairman? I have here an amendment suggested by Senator Cummins dealing with the question of taking over the plant, and I would like to have it incorporated in the record.

The CHAIRMAN. Without objection, it will be incorporated at this point.

(The paper referred to is as follows:)

[Cummins's amendment to Connecticut River bill (S. 8033).]

SEC. 5. That upon the termination for any cause whatever of the authority, rights, and privileges granted hereby, or any renewal thereof, the United States may renew the same or the grant may be made or transferred to other parties. Unless the grant is renewed to the original grantee or its assigns, as herein provided, the United States shall pay or require its new grantee to pay to said original grantees or its assigns, as full compensation, the reasonable value of the improvements and appurtenant works constructed under the authority of this act and the property belonging to said corporation necessary for the development hereby authorized, exclusive of the value of the authority hereby granted. Said improvements and appurtenant works and property shall include the lands and riparian rights acquired for the purposes of such development, the dam and other structures, and also the equipment useful and convenient for the generation of hydroelectric power or hydromechanical power and the transmission system from generation plant to initial points of distribution, but shall not include any other property whatsoever. Such reasonable value shall be determined by mutual agreement between the Secretary of War and the owners, and in case they can not agree, then by proceedings instituted in the United States district court for the condemnation of such properties. The basis for determining the value shall be the cost of replacing the structures necessary for the development and transmission of hydroelectric power by other structures capable of developing and transmitting the same amount of marketable power with equal efficiency, allowance being made for deterioration, if any, of the existing structures in estimating such efficiency, together with the fair value of other properties herein defined, to which not more than 10 per cent may be added to compensate for the expenditure of initial cost and experimental charges and other proper expenditures in the cost of the plant which may not be represented in the replacement valuation herein provided.

Mr. RAKER. Mr. Pinchot, the bill as it stands now gives the Secretary of the Interior the discretion to grant these permits. It has been suggested that the bill should authorize and direct the Secretary to grant permits to every qualified applicant upon the conditions provided in the bill. What have you to say as to that?

Mr. PINCHOT. Just what I said before. I would leave the Secretary of the Interior or the Secretary of Agriculture as free as a private individual would be, as nearly as possible, to deal with each individual case as it comes up, assuming that he will act in the interest of the Government.

Mr. RAKER. Speaking of the point of view suggested by Mr. Graham, the result of the effort of the best man against the worst man—might there not be favoritism shown, and ought it not to be provided and put in the bill that this water power is there and the locations are there and every qualified applicant who can make good ought to be given an opportunity to make good?

Mr. PINCHOT. I think the answer to that, Judge, is that you can never give an executive officer authority to do good work without giving him at the same time enough power to do bad work. The bureaus of the Government service which are most tied up with minute regulations of that kind are those in which the worst administration takes place.

Mr. RAKER. It was presented here by the American Institute of Electrical Engineers, which has about 6,000 or 7,000 members, a committee of whom appeared here, and I understand from two of them—very high-class men—who stated that within the last five

years there has been practically no development in the electrical power projects in the West on account of the rules and regulations and discretion exercised by the departmental officials; that practically all development was at a standstill, with the possible exception of the Edison people at Los Angeles.

Mr. PINCHOT. The answer to that is that 76 projects, aggregating three-quarters of a million of horsepower capacity at low water, have been provided for by permits given in the national forests within the last two years.

Mr. STOUT. How many of those are being built?

Mr. PINCHOT. All of them were granted under conditions which required prompt development.

Mr. STOUT. Was there any time limit on them?

Mr. PINCHOT. Yes; there was a time limit imposed that they must begin within a certain time and complete within a certain time.

Mr. RAKER. Now there are 76 permits granted, and they cover in all how much?

Mr. PINCHOT. At minimum stream flow 728,000 horsepower, which means twice or three times as much practically.

Mr. RAKER. That would show that most of them are small affairs.

Mr. PINCHOT. There are only 7,000,000 horsepower developed in the United States now, and these permits represent probably one-third as much as the total development at the present time.

Mr. RAKER. These gentlemen, who have had wide experience and who represent an organization which stands high all over the United States and foreign countries, claim that they have made an investigation of this matter and that in their judgment development has not been proceeding, because the rules and regulations and power exercised was so onerous, so strict, title so visionary, that they would not invest. In other words, that men with money would not put money into these enterprises.

Mr. PINCHOT. I have heard that statement. The answer to it is the official figures of what has been going on with revocable permits. There is no question about it; those are the official figures.

Mr. RAKER. You are fully confirmed in the belief now that the revocable permit is not conducive to proper development? In other words, there ought to be a fixed period?

Mr. PINCHOT. From the beginning we have tried to get a bill through which would give us the right to give a permit that would be irrevocable, except for cause; but I want to impress this upon you, gentlemen, that while we have been working hard to get this bill for six years at least, we have been battled at every point by the water-power interests. They, in the first place, demanded perpetual rights; then they demanded indeterminate rights. Bills have been introduced every year substantially along the lines of this bill. We have pushed them in every way we knew, and every year we ran up against the water-power interests, who are not satisfied unless they can have the whole thing.

Mr. RAKER. There seems to be some difference of opinion as to monopoly. They claim that there is no monopoly in the water-power interests at the present time.

Mr. PINCHOT. We can give the figures of concentration, showing increased concentration.

Mr. RAKER. Has that increased concentration been detrimental to the water interests all over the country, in that they are charging higher prices to the consumer?

Mr. PINCHOT. This concentration is concentration in the hands of a few groups of men—not in one spot. There is no other form of monopoly as great as this very great monopoly of power.

Mr. RAKER. That being the case, do you not believe that this bill ought to be so liberal in its terms as to permit the Government to adopt a policy that will bring cheap power to the consumer of power and induce capital to go into the enterprise and therefore a permit of sufficient length should be given to induce foreign capital to enter into this enterprise?

Mr. PINCHOT. Of course that length of term has been reached by years of conference with electrical engineers and water-power people, and it all seems to come down to the consensus of judgment that 50 years is enough.

Mr. RAKER. Then you have agreed upon the proposition of a 50-year lease as being about right?

Mr. PINCHOT. That has been the policy of the Forest Service for eight years.

The CHAIRMAN. Then the provision of the bill that it shall not be longer than 50 years—if it was made a 50-year definite period?

Mr. PINCHOT. No; I would leave the matter, as I said, to the Secretary—leave him with as much freedom as possible in making individual contracts with individual lessees.

Mr. RAKER. Now, from your point of view, what harm could come to the Government—could come to the Secretary—if a definite period, which it is conceded practically from all sides ought to be 50 years, was given definitely to start with, with all necessary conditions and restrictions surrounding it?

Mr. PINCHOT. There are two answers to that question. One is, that one Secretary has authority to give 50 years and the next Secretary of the Interior has authority to give them 50 years also. The second answer is, that you can never foresee conditions which will have to be met, and the tying up of an executive officer in this way is unfortunate.

Mr. RAKER. That leads me to this provision of the bill in section 8, as to your views on it. It provides here for rental and royalty, and the question has been raised whether or not that rental and royalty should be a nominal sum, so as to keep the control in the Government and in the States under the bill, so as to insure full development and proper service at all times, without obtaining any appreciable revenue to the Government. In other words, there are two theories, one that it should be simply nominal, with authority to regulate it, and the other to regulate it and still receive a fair return so as to accumulate a fund. Which of these is your view?

Mr. PINCHOT. My view is very strongly for the last one. It is impossible, as I tried to explain in the early part of my testimony, for a public-service commission to regulate price to the consumer in such a way as to get all the benefits that the public ought to get. There is, in the difference between the cost of water power and the cost of steam power, a possible profit, which is the thing that the public-service commission has to regulate, because the charge for

water power must be the standard and must be regulated by the competing charge of the power, as the Commissioner of Corporations has said, and which will be embodied in extracts from his report in my testimony. In other words, if you limit the Government charge to a nominal charge, you do not get what the people ought to get.

Mr. RAKER. Suppose a man acquires 100 acres from the Government for his plant, and he acquires by purchase several hundred acres, he acquires rights of way at larger expense, and the Government interest now would not appraise more than $2,000, while the money invested would be, say, half a million dollars in the other plants that he had actually paid. Would you believe that the Government should obtain any return over and above the fair value of this 100 acres it has leased?

Mr. PINCHOT. I believe that the Government should never obtain anything for something which they have not given. But the essential thing the Government gives is authority to conduct the business.

Mr. RAKER. Would you collect from the entire business, the entire output of the plant?

Mr. PINCHOT. In the national forests the policy very carefully worked out was a calculated general charge covering the whole development, and then the Government charge of that percentage of the whole development, which was developed in the use of Government property.

Mr. RAKER. That would bring it down to what I was getting at. In other words, you would only charge for the Government use the fair proportion of what the Government land was?

Mr. PINCHOT. That is not based entirely on the limit of the Government land.

Mr. RAKER. What would you base it on?

Mr. PINCHOT. There comes into that such considerations as franchise value. In whatever way the calculation may be made, it has in its essence the franchise right. That is the essential thing the Government gives.

Mr. RAKER. If he has to pay the State for his franchise and then has to pay the Government, he is paying it twice.

Mr. PINCHOT. He may have to pay the State, or he may not; but in most States he does not pay it. For instance, in Alabama they have given away practically all of their water power without a cent of charge. Nobady pays anything—not a cent. The essential thing is the franchise.

Mr. THOMSON. Might I ask a question there? The Government is not granting a franchise to these companies, are they? Might that not be better expressed as the granting by the Government of an opportunity to do business by giving them the right to locate on this dam site?

Mr. PINCHOT. That might be a more correct expression. What the legal terminology should be, I do not know, but it is power granted by the Government.

Mr. THOMSON. Is it a right which the Government gives this company which results in their opportunity to do business at this point?

Mr. PINCHOT. Yes; that is it.

Mr. RAKER. Is that the condition? I have gotten a little hazy on that. It seems to me he would have to get that from the State.

Mr. PINCHOT. He would have to get it from the State and from the Government. If it was on Government property, he could go ahead with his work when he got the franchise from the Government.

Mr. RAKER. Would the Government assume to grant a franchise, or could it do it, merely by ownership of the land; or could it lease this land for so much and give him the rights upon condition that he did certain things? In the case of a navigable stream, the State grants the right to build a dam and a man can not build a dam until he has also a franchise granting him the same privileges.

Mr. BROWN. Might I ask a question there? Assume that in the Forest Reserve the Government owns a dam site, and assume that their permittee puts in machinery capable of developing 100,000 horsepower on that site. Not to bring in the question of the use of water at all, can you tell me, roughly, what is the average charge exacted?

Mr. PINCHOT. I should have to refer that to Mr. Merrill.

Mr. BROWN. Suppose the Government had a dam site in the forest reserve, and suppose that the permittee installed machinery capable of developing 100,000 horsepower. The assumption would be that the man developed that horsepower. Can you tell me roughly, now, what the Government charges would be?

Mr. MERRILL. I can only tell you by the method by which we fix charges. That is not on the basis of installation but on the basis of the amount of power that can be developed at that site at low water. For example, the Pacific Light & Power Co. proposed to develop 250,000 horsepower with their machinery on that site. We charged that plant, as a matter of collecting the Government rentals, for 83,000 horsepower.

Mr. BROWN. How much per horsepower?

Mr. MERRILL. $1 per horsepower, the maximum charge.

Mr. BROWN. What is the minimum charge?

Mr. MERRILL. Ten cents per horsepower.

Mr. BROWN. It is a sliding scale?

Mr. MERRILL. Yes; a sliding scale.

Mr. BROWN. A sliding scale from 10 cents to $1?

Mr. MERRILL. Yes.

Mr. BROWN. Is it tabulated? Do you have a table showing the rates?

Mr. MERRILL. Yes.

Mr. BROWN. And that is established by general regulations?

Mr. MERRILL. Yes.

Mr. BROWN. Mr. Chairman, I would like to have that table put in the record at some point.

Mr. MERRILL. It will be in the papers which I will bring up here.

Mr. RAKER. There is one more question I would like to ask Mr. Pinchot. Supposing a going concern has a hydroelectric plant. Suppose it was in existence and was under strict supervision of the public service commission; they had made a physical examination of this plant, that which they owned individually and that which they had obtained by lease from the Government, together with its franchise—in fact, this entire plant—and upon that they make a charge that would give them a fair rate of interest upon the money invested,

allowing a certain amount for depreciation. Now, if that company had to pay a certain percentage of its entire receipts to the Government for the use of that land, would it not of necessity include the amount that it had to pay the Government in fixing the rates that the company could charge, and would it not eventually have to come out of the consumer?

Mr. PINCHOT. I think you have the cart before the horse. The first thing that would happen would be to cease dealing with the Government after the imposition of the Government charge, and then the company would go on and construct the plant and then the State would come in and adjust its charges so as to be fair.

The CHAIRMAN. It is in evidence here that approximately only 3 per cent of the water power is developed. To be exact, it is estimated that there is a possible development of 200,000,000 horsepower in this country, and that only 6,000,000 horsepower is in use. Has the development of water power reached such a state that we could with propriety place any fixed amount in this bill that we should charge per horsepower?

Mr. PINCHOT. No. It was suggested to me just before the hearing, by one of the gentlemen present, that something of that sort should be done, but I am very strongly opposed to it. The reason why that could not be done is that if you fixed some rate that would be fair for the less profitable plant, the most expensive ones, you will fix a rate that will be very much too low for some others.

The CHAIRMAN. And if we fixed what a large going concern ought to pay, it would probably be prohibitive to the little fellows?

Mr. PINCHOT. Yes.

The CHAIRMAN. There is one point that I wanted to develop, and that is, that if we should make a lease that had provisions in it so onerous that it would not be met, that would intensify and make more profitable the holdings of the present power people now in operation?

Mr. PINCHOT. Yes.

The CHAIRMAN. So that while all of us want to ward off monopoly and want to keep these water powers from slipping away from us, we still ought to have an eye single to get a razor that would shave—a development that would go.

Mr. PINCHOT. Yes; and I would like to say in that connection that the conservation people are very keen to promote development, and there can be no better proof of that than the development going on in the national forests.

The CHAIRMAN. There was one other question that I wanted to ask about this Chandler-Dunbar case. We had one witness yesterday who launched out into an elaborate statement that the Government did not have the right to do anything with its own land. He offered sundry opinions to show that we did not; that we were only a kind of a trust affair for the people of the country; that we did not have jurisdiction over our own property. I want to ask you, from your wide experience—the various commissions that you have attended, and the various places where you have met this question—is it not now altogether a well-accepted fact that so long as the Government owns their property, they can lay down such conditions as they desire to lay down? Is that any longer a mooted question?

Mr. PINCHOT. Not in the slightest degree, so far as I know. It was in the beginning a very strongly mooted question. The contention was constantly made that the Government had the right to grant or refuse the permit, but it did not have the right to impose conditions after the permit. That position has substantially disappeared, and the Chandler-Dunbar decision cleared up the rest of it.

The CHAIRMAN. Did we not, in section 7, of the Hetch-Hetchy bill, so far as Congress is concerned, put at rest that proposition?

Mr. PINCHOT. Absolutely.

Mr. BROWN. Touching on the proposition of Judge Raker "to direct," instead of "giving" the Secretary the authority to issue a permit, that he be "directed to issue one to any qualified applicant," if that were done, might it not be true that a case might arise which would present a situation where a development on a pretty extensive scale would be the best thing for the public interests, which might be very materially interfered with by somebody—a qualified applicant—coming in and breaking in somewhere along or in the middle of this area and of obtaining a permit for the comparatively small proposition which he would be entitled to, if the bill read that way?

Mr. PINCHOT. I think you are exactly right in that, and you are supported by actual experience. We have a number of rivers on which that has already taken place—where larger developments are prevented by the existence of smaller ones.

Mr. SINNOTT. How much of this concentration of water power that you referred to is now subject to public utility regulation?

Mr. PINCHOT. It would be impossible for me to answer that question now, because I do not know just what States have public utility commissions.

Mr. SINNOTT. Now the State of Oregon at the present time collects, or it is authorized to collect, a license fee from power companies which shall not be less than 25 cents, nor more than $2 per annum for each measured horsepower developed. Now, have you any suggestion to make as to an adjustment between the State and the Federal Government upon those collections? There is limits, of course, to which the power companies may go in paying the tax.

Mr. PINCHOT. This bill, as I understand it, provides that no permit shall be issued or any lease granted in any State that has not a public service commission. There would necessarily be cooperation between the Secretary of the Interior and the public service commission, and that would answer the question.

Mr. SINNOTT. The collections by the Government and by the State might be excessive, taken all together.

Mr. PINCHOT. I have always held strongly to cooperation between the Nation and the State in spite of the conflict which has been excited very largely by the power people between them.

Mr. SINNOTT. Mr. Fisher, in talking to me privately, said that he thought the Secretary in fixing his rates should take into consideration the fact that the State is likewise collecting a tax.

The CHAIRMAN. There is no disposition on the part of any of us to impose unfair terms on the power people.

Mr. RAKER. Would it not be fair to the State that has no public utilities commission, to give that power to the Secretary of the Interior to handle the powers until the State does pass a law turn-

ing these things over to a properly organized public utilities commission?

Mr. PINCHOT. I think the solution that the bill contains is very much wiser, for the reason that the attempt to do that would at once lead to a great deal of conflict between the States-rights people and the Nationalists. The solution in the Ferris bill is the better way around it.

Mr. RAKER. But that shuts up development in the meantime.

Mr. PINCHOT. It puts it up to the State. If the State has not interest enough in water power development to establish a public service commission, that is the State's fault. If the State does not care to have it, I do not see why the Nation should.

The CHAIRMAN. I do not think that will be a question in this bill. There are few States that have not yet crossed the bridge.

Mr. THOMSON. And these States would be very quick to provide commissions, I think.

The CHAIRMAN. Yes; the first issue in the campaign would be, "We haven't a commission here, and therefore our water powers are tied up," and the fellows in the legislature that did not pass such a bill in the first session would be swept off the map at the next election.

Mr. RAKER. The State might object to providing any commission. A few power companies might be in the State and in operation, and it would be to their interests and to the interest of all their friends not to see any legislation that might permit any other companies to come in. That being the case, do we want to permit such a bill to be passed that would enable corporations to control the situation, as it is claimed now—I can not say whether it is true or false—as it has been claimed for the last five years it has been the condition, that in many western States by holding up permits for water-power companies and for development companies they have been able to charge twice as much for their electrical energy as they should charge?

Mr. SINNOTT. I never expected to live to see the day when you will admit the possibility of control of any State legislature by water-power interests.

Mr. RAKER. You are absolutely mistaken in that.

Mr. SINNOTT. On this subject of development, I would like to add that in 1905 the State of Oregon limited the franchise rights of water power developed to a 40-year period. Every franchise terminates in 40 years, and the State engineer reports in his last report that expenditures amounting to $23,000,000 are under way by virtue of that law.

The CHAIRMAN. We are very much obliged to you, Mr. Pinchot.

As per the request of Mr. Pinchot, former Chief Forester, I am incorporating a letter I received from him through the mails supplementing his views on the subject expressed in person at the time of the hearings.

(The letter referred will be found as Exhibit H in the appendix.)

The CHAIRMAN. I hold in my hand a compilation of data bearing on the water-power laws of foreign countries. Without objection the same will appear to follow the letter from Mr. Pinchot.

(The paper referred to will be found as Exhibit I in the appendix.)

STATEMENT OF MR. M. O. LEIGHTON, WASHINGTON, D. C.

The CHAIRMAN. Will you state your name and occupation, Mr. Leighton, and your residence?

Mr. LEIGHTON. My name is M. O. Leighton. I am a consulting engineer, located at Washington, D. C., representing the Green River Co., a Utah corporation, and the Priest Rapids High Line Land Owners' Association.

Mr. SINNOTT. Is that Priest Rapids Co. a Washington company?

Mr. LEIGHTON. Yes, sir.

Beginning with the year 1902 I had considerable experience with reference to water-power matters, as a member of the Geological Survey, and from 1909, or thereabouts, to May 1, 1913, I was in charge of field work with respect to water-power withdrawals and rights-of-way which came under the decisions and adjudications of the Department of the Interior. Since leaving the Geological Survey I have continued in private practice, with a reasonable amount of experience in water-power development, financing, etc. During my experience in the Geological Survey I was brought in close contact with the difficulties attendant upon financing and development of water power under the act of 1901. This induced me to give some study to the matter and I pursued diligent inquiry among the water-power men, financiers, and lawyers. That which I will have to say this morning with respect to this bill is based upon the impressions which I gathered during that experience.

I want to say, in the first place, Mr. Chairman, that I strongly approve of the intent and purpose of this bill. I conceive that its purpose must be to lift what surely has been and now is a governmental embargo on water-power development; I believe that it seeks to make investments in water power attractive, and, more than all else, seeks to regulate and control the development and operation in the public interest. My suggestions, which will come in a moment, are based upon the fact that the authors of the measure have apparently not considered as fully as may be necessary the fact that if hydroelectric development is unimpeded it must of necessity become an enormous business, involving the investment of huge amounts of capital; that interests as great as these must have the stability which can come only from a definite policy, the details of which are fixed by the law rather than according to the discretion of an administrative officer. This is the underlying expression of every suggestion that I shall have to make with reference to this bill.

The electric business to-day, steam electric, hydroelectric, and all its utilities, involves, for extensions and betterments alone, the expenditure of about $1,000,000 a day. That was determined at a recent convention of operation men. It was also estimated that if investment in water powers is made attractive the natural consequence will be that the development in the next 10 years will equal or exceed $2,000,000,000. Interests as enormous as those ought to have some stable basis.

Now, the necessity for public control is no longer disputed by anyone. I do not recall that it has been disputed in this hearing nor in any other. It is a matter that is behind our elbows, and every element is conceded. That, in my opinion and in the opinion of many others, applies to this case of water-power monopoly. Water power

is a natural monopoly. Large aggregations of capital must be invested in it because it costs money. It is not an industry out of which the poor man is going to be crowded, because he has not enough money to go in in the first place. The water-power monopoly has no resemblance to the monopolies which have caused us so much trouble, alleged or otherwise, like the oil or coal, because those people are manufacturing and putting upon the market a commodity which they sell at a price largely fixed by the producer. They can be reached by corrective measures only in an indirect way. A water-power monopoly is not selling a commodity in the strict sense of the word, but rendering a service, and its relation to the people must always be under modern regulations, the relation of the servant to the master in the house.

So that, personally, I can not look with alarm on the fact that 10 or 11 or even 5 or 6 or 4 or 3 groups of interests have taken up so much of water-power property. What are they going to do with it? Suppose that only one company had it—what would they do with it under the modern regulation? Protection of the public interest is an established slogan which stands in no more danger of being wiped out of the public view than did the institution of slavery in 1862. But there is another reason, and very apparent to those who look into the thing without prejudice. Water-power development is a highly specialized thing. I believe in this country there are four or five companies—well, we will say a dozen at the outside—making water power and hydroelectric appliances. It is not something that the untrained or partially trained man can go into as he can go into the peanut business or the hat business. Naturally the people who are trained in the business are the ones who take the properties. At present the number of such persons is comparatively small. It is a perfectly natural thing and, in my view, without any possible detriment to the public, so long as the public is protected by regulation.

Now, it seems to me that there are two aspects to be considered in the relation of the Government to this water-power business on the public lands. The first is the sovereign relation, covering the control of conduct. Now, this control of conduct is exercised in the case of public lands through contractual relations, it is true, but it nevertheless possesses every essential of sovereign control. Under that power of mandate it is sufficient for the Government to say "you shall" or "you shall not" do this or that or the other thing. Then there is the proprietary aspect, in which the governed must leave its sovereign robes on the throne and come down in the forum and do business according to business rules as business men do with each other.

You have here a definite business proposition which you offer, and the fact that the United States is sovereign can not change in any degree the ordinary rules and principles of business, of security, of investments, or any other fundamental thing which was settled long years before there was any such thing known as the United States Government. The trouble with this bill, and with a lot of others that have preceded it, with the intent and purpose of which we all agree, is that they mix the things which should be accomplished by sovereign mandate with those purely fundamental business relations,

and in that way attempt to achieve or secure sovereignty through property stipulation. We pass laws prohibiting murder, but we do not also pass a law providing that in order that man shall be prevented from doing murder he must wear handcuffs. That is precisely what this bill does in effect, as I hope to show.

Directing my attention now to the bill itself: Page 1, lines 1 to 3, "Authorized and empowered under the general regulations to be fixed by him."

Now, the power given to the Secretary of the Interior by that clause is practically unlimited, except as modified by the few specifications that come subsequently in the bill. It does not provide for fixed conditions, such as are necessary to the establishment of an enormous business. Now, in saying that I do not wish to reflect upon the present Secretary of the Interior. My admiration for Secretary Lane exceeds all reasonable bounds, but neither you nor I know who his successor will be. He is not going to hold office permanently. No one knows what the views of his successor will be. I have served in the Interior Department under five Secretaries, the last one only for a few months, but in those 10 years, under five Secretaries, each one differed radically from the other on this water-power question. It was a very significant thing that two days ago ex-Secretary Fisher came here and suggested radical amendments to the bill, which bill has been formally approved by the present Secretary of the Interior.

Now, the sentence that we have here, "Authorized and empowered," etc., is the same as in the act of 1901. Under it the Secretary may withhold a lease even though an applicant conforms to all the terms of the act.

The disadvantage is not confined, in that case, to the original power installation by any means, but it extends to subsequent ones. I do not suppose there is a power lessee in the country who is going to start out full tilt with his final installation. His business will grow. He will take up new leases. What is going to happen to this second lease It has been said here frequently if he does not like it he does not need to take a lease. That is all right when he is on the outside, but suppose he is on the inside. A public service commission comes along and says, "Increase your capacity to respond to this demand for service." He comes to the Secretary of the Interior and asks for a new lease on a new power site. A new man with different views is Secretary of the Interior. What is the result of that going to be to the integrity of the investment?

Now, Secretary Fisher said the other day that this provision, "Authorized and empowered, under general regulations to be fixed by him," was too general. I ask you to take note of the fact that the present regulations under those seven or eight words cover 24 closely printed pages, and cover many other things. They include: (1) The approval of plans and engineering work; (2) the applicant's financial standing; (3) the terms of the permit; (4) the imposition of a tax and its periodical adjustment as the Secretary may desire; (5) the time for completion and commencement; (6) the continuity of operation; (7) publicity of accounts; (8) prescribed form of accounting system; (9) that the grantee shall also sell his property to the municipality on demand and at a price that shall

finally be fixed by the Secretary; (10) the permit shall not be transferred except on permission of the Secretary. All of that and a lot more is prescribed under these six or seven words, and it is subject to change in every administration; it is subject to change at any time by the same Secretary if he so desires.

The CHAIRMAN. Let me ask you right there—you are making a very strong statement and a very worthy one, but might we not in each case require the fixing of these terms and conditions in advance of the lease and accomplish your purpose and do away with much of the trouble you suggested?

Mr. LEIGHTON. The point is just this: The first installation is a small part; subsequent developments under new leases might be made so difficult as to affect the investment under the first lease.

The CHAIRMAN. If that first lease runs for 50 years, it is not a small part, because 50 years is quite a long lease.

Mr. LEIGHTON. If I start now with one lease for 10 horsepower and the business grows, and I finally require 100 horsepower or 1,000 horsepower in my system, the first lease would cover a comparatively small part of the total property under lease.

The CHAIRMAN. Considering the aggregate energy required and not the length of the lease?

Mr. LEIGHTON. Oh, yes.

The CHAIRMAN. I thought you meant that the first lease would be a small matter with regard to succeeding leases.

Mr. LEIGHTON. Oh, not at all. Under the terms of this bill, and knowing the constructive intent and purpose of Secretary Lane as I do, I could go to him, or anybody could go to him, and have confidence of securing a square deal. But when I extend my property and require a new lease for a new site, I must go again to the Secretary who is going to succeed Secretary Lane. Now, the investor who is not familiar with the workings of the Department of the Interior, as I happen to be, who is away off there somewhere else, is still more doubtful than I am.

Before leaving that, I suggest that this provision ought to be stricken out and made to read, "Is hereby authorized and directed," because I think if Congress fixes the terms under which these power sites can be taken up, it ought to leave it open to anybody who will comply with the terms of the act. I want to suggest for your consideration the constitutionality of the clause "under general regulations to be fixed by him." I can not propound the law, but suggest that you take note of the case of Field *v.* Clark, 143 U. S. I will not take the time to quote from that decision, but will merely state it as my view that if the Supreme Court in that case decided that the President did have power to accomplish certain things solely and only because those things were specified by Congress it follows logically that right here you are asked to confer upon the Secretary of the Interior power to make general regulations, among which is the raising of revenue, which is not a proper delegation of power.

Now, with reference to this particular act, I will pause here a minute, with your permission.

The CHAIRMAN. Now, in order that we do not get in confusion about that one proposition, Mr. Leighton, do you assert that the Federal Government has not the power to lay down the conditions of

any kind under which its property shall be used as conditions precedent to its use?

Mr. LEIGHTON. Absolutely it has the power to lay down any conditions that it chooses. My only contention is that you ought to put them in the bill.

The CHAIRMAN. I thought you were stating a case to show that this bill was of doubtful constitutionality.

Mr. LEIGHTON. No. That particular clause with respect to the delegation of authority to an administrative office has been cited to me in a very strong way, and I suggest that you take it up.

Mr. KENT. In that connection, you speak as though the question of raising revenue was involved, and of course that brings up the question as to whether conditions precedent which may raise revenue would not be unconstitutional.

The CHAIRMAN. The case he now cites, as I understand it, has to do with the delegation of authority.

Mr. LEIGHTON. It has to do with the delegation of authority. It was the case of a tariff bill, where the President was empowered, upon the securing of certain reciprocal relations with other countries, to suspend a tariff, and the whole thing turned upon that.

Mr. RAKER. I understand Mr. Leighton's position is that Congress has the power, and the sole power in disposing of the land, to put a condition upon it, and one of those conditions could be rental or other revenue features.

Mr. LEIGHTON. Exactly.

Mr. RAKER. But you simply say that the Secretary of the Interior should not have the power to do that, you question that power?

Mr. LEIGHTON. That is the whole gist of the case, yes, sir, as to whether that power can be delegated.

The CHAIRMAN. Will you get that case, Mr. Finney?

Mr. FINNEY. Yes, I will look it up.

The CHAIRMAN. Please look it up so we can inquire of you later. Take, for instance, the tariff act, and consider the commercial or the manufacturing business. Let us paraphrase the tariff act along the lines covered by this bill; supposing it should say that "the Secretary of the Treasury is authorized and empowered, under general regulations to be fixed by him, to establish such tariff rates on imports as may in his discretion seem justified by the conditions." That of course would knock business into a cocked hat. But the power business is governed by the same laws and principles and is adversely affected by precisely the same conditions of uncertainty as any other business. The fact that the contracting parties constitute the sovereign and the subject does not change this principle. It is possible that in any given case a large measure of damage may not arise from any specific act of the Secretary, but it surely will arise from the uncertainty concerning the nature of such act. It is well known that in most cases the real trouble and damage which arises from a new tariff act is the uncertainty and lack of confidence engendered during the discussion of the act. When the act is finally passed the country can, with more or less success, adjust itself to the new conditions. But under this bill as drawn, the power business will be constantly in the same position which prevails in the commercial and manufacturing business during the agitation precedent to the passage of a tariff act.

I should say "authorized and directed" in that particular place.

Mr. RAKER. Would a question bother you there?

Mr. LEIGHTON. Not at all.

Mr. RAKER. I have been taking the same view before the committee on the proposition of disposing of coal and oil, and there is the same language as to giving the Secretary of the Interior discretion in many things. My theory has been that he should be authorized and directed to act upon all qualified applicants. We legislate for the best and worst of men. The Secretary, under this language, could refuse a man arbitrarily the right to proceed. Is that your construction of that provision?

Mr. LEIGHTON. That is my construction, yes.

Mr. RAKER. In other words, it leaves it all to one man, all to one power.

Mr. LEIGHTON. An applicant could obey every mandate of Congress and yet be denied.

Mr. RAKER. And that is dangerous, is it not?

Mr. LEIGHTON. Personally, I do not like it.

Mr. RAKER. Is it not a fact that in our country, under our character of Government, it is dangerous to give one man so much power?

Mr. LEIGHTON. I think so, and if I got into the very unbelievable situation of being the Secretary of the Interior that is the last power that I should want.

Mr. RAKER. I have known you for 10 years, and I think you would make a dandy.

Mr. LEIGHTON. I thank you very much, sir; but I have no ambition for the place.

Mr. RAKER. I just wanted you to know.

Mr. STOUT. Are you nominating him now?

Mr. RAKER. That is, after Secretary Lane gets through with his eight years.

Mr. LEIGHTON. You will have to give me time to settle down after that.

Page 1, line 5, I would put in a provision that a lease should be extended only to public-service corporations or some other agencies of the State, in order to tie it down to public regulation a little closer and in order, moreover, to cover that trouble that ex-Secretary Fisher described day before yesterday when he drew a distinction between public-utility service and a plant developed for manufacturing purposes. He said, very properly, if a lease were given solely for manufacturing purposes, the owner would not be subject to regulation. If you deny to the manufacturer the right to develop in that way, make him, or a power-developing corporation subsidiary to him, become a public-service corporation, and then, even though he sells all his power to one party, even though he sells all his power to himself, the relation between himself and himself will be controlled by the public-service commission. In other words, there is nothing that I can find which requires that a public-service corporation must have more than one customer. In point of fact that condition described by ex-Secretary Fisher never can arise in the future, and I very much doubt—in fact, I would be almost willing to assert—that it is not present at any place in the United States now. A manufacturing

plant must have operatives. A town always builds up around the plant, and there comes, inevitably, a large amount of public demands for power, such as lighting and heating and what not, and eventually there develops all that diversified public-utility service. The logical consequence of the whole thing is that finally the manufacturing service will be subsidiary in point of quantity to the public-utility service. Therefore I suggest that addition.

On page 1, line 9, I am obliged to thoroughly agree with my fellow engineers who testified yesterday on 50 years as being the minimum term. Now, Mr. Chairman, you brought up a point yesterday that I would like to spend a moment on, if I may. I think Brother Merrill gave you a memorandum stating that the Pacific Gas & Electric Co. had issued refunding bonds to the extent of $150,000,000, maturing in 31 years. In that particular case, and in all cases like it, the bond term has no relation to the term of occupancy. It is probable—nay, it is altogether likely—that had the franchise of the Pacific Gas & Electric Co. expired in 31 years those people never would have secured a 31-year refunding bond. In that particular case I want to call your attention to the fact that those were refunding bonds. The assumption that under a 30-year franchise or a 50-year franchise the bonds will have to be coterminous with the franchise period involves the assumption that you are ever going to pay off these bonds, which you are not. Nobody ever thinks now of issuing a large amount of bonds and paying them. They are usually refunded at expiration. If, by reason of fortunate circumstances in operation during the year, there is a little money saved under the established rates for service, perhaps they will buy up a few bonds. Here is a specific case in which a lot of miscellaneous securities of this same company were all refunded under one issue for 31 years.

The CHAIRMAN. If you will pardon me, that was only suggested merely to correct the record, as much as anything else. You will recall that it was stated that there was no specific instance of it for 100 years.

Mr. LEIGHTON. Yes.

Now, on page 2, line 6, if you please, "Upon a finding by the chief officer"—that, from my point of view, is subject to the same objection that I have already cited. It is indefinite, uncertain, and dangerous. A chief officer under this language may make such ruling as he pleases. I do not know and no one knows who the chief officer is going to be. His decisions will be based somewhat and perhaps largely on the reports of his subordinates. Take the Forest Service, for example. I have many friends in that service, from whose acquaintance I have derived benefit and inspiration. I think it is one of the most admirable bodies of men in the world. I think that without the enthusiasm and devotion of the Forest Service men the Government would be very much worse off than it is now. Yet that very enthusiasm leads those very men to believe that the purposes for which the national forests were created include almost everything under heaven and on earth. That is a commendable thing, and they could not run the Forest Service without it, but at the same time I believe that a determination as to whether those purposes would be injured is a matter of finding of fact, to be determined by judicial decision that is subject to review in some way, and not determined

by the opinion of men who are most commendably keeping their noses to the grindstone.

Page 2, lines 11 to 13, provides that preference shall be given to municipal uses and purposes. Mr. Pinchot this morning, and I think Mr. Pierce yesterday, suggested an amendment which would define just what this clause means. At present it is not specific. You might construe that as covering almost anything in the way of municipal service, so long as it was tied up to dwellers in municipalities. I think that the cities should have a preference right in all such instances, and this clause should prescribe to that end. At present it covers service by any lessee. If it is not corrected I call your attention to the fact that it will do considerable wrong, because municipal service is not always the highest service in hydroelectric power. Electrification of railroads, pumping water for irrigation, nitrogen fixation—all those things may, in certain cases, be of considerably higher use than the mere municipal service.

Mr. RAKER. What would you suggest to correct that?

Mr. LEIGHTON. Oh, I would accept Mr. Pinchot's and Mr. Pierce's suggestions. Mr. Pierce's suggestion is to give preference to applications by States and municipalities for leases for the development of electric power for State or municipal purposes. I think that would cover it.

I think that line 16, in section 2, "For the reasonable development," should be strengthened. As it stands it does not preserve the public interest. "Reasonable development" may mean anything from scratching the gravel to actual diligent construction. Under some of those permits that the Forest Service has issued, and which are reported as under construction, I happen to knew that they are just scratching around and laying a stone or two, and rolling a wheelbarrow of dirt once in a while, pending the financing of the development.

The CHAIRMAN. Are all of them in that condition?

Mr. LEIGHTON. I say I happen to know a few.

Now, "Continuous operation." Mr. Pinchot brought up that point this morning. "Continuous operation" may be an unfair requirement if there is a slump in the power market. I would suggest that the part of the bill S. 4415 covering that point is most excellent. It provides a definite time for commencement, two years, and a further time of five years for the completion, or as much thereof as is necessary. It provides that "The lessee shall, in good faith, continuously and with due diligence prosecute such construction, and shall, within the further term of five years"—that is, if he does not need his five years he is not entitled to it.

Mr. RAKER. That is Senate bill what number?

Mr. LEIGHTON. That is S. 4415. That is at page 6. I like that particular clause. It makes the water-power men come around and either fish or cut bait.

Mr. BROWN. I would like to ask you if that would be satisfactory in Alaska as well as in the United States?

Mr. LEIGHTON. This suggestion here?

Mr. BROWN. Is the time limit sufficient there?

Mr. LEIGHTON. There is a provision in this that the Secretary may increase the periods when in his judgment the public interest would be promoted thereby. We could not fix them definitely. Take, for

example, the Keokuk power plant, which is being much abused now on account of its supposed oppression. It took 12 years to finance that plant after they had got their permit. They had to come to Congress time after time. It took nine years to build the Chattanooga development. So we have got to have some leeway. I think it is proper to give that discretion to the Secretary of the Interior.

Now, I will not cover that matter of continuous operation, because Mr. Pinchot has already done so. I come down to this 50 per cent of the electrical energy.

Mr. RAKER. Before you pass to that other matter, this amendment suggested by Mr. Pierce is practically what you have there in your bill, is it not, Here it is here, on page 2.

Mr. LEIGHTON. That is a quotation from the Jones bill.

Mr. RAKER. That covers the point.

Mr. LEIGHTON. Yes; anything like that, or similar.

Now, the sale of more than 50 per cent of the total output to one consumer, according to page 2, line 20, shall be taboo without the consent of the Secretary of the Interior. Of course, the Secretary's consent in that case is subject to the same objection that I stated in reference to the whole principle of the bill, but we may ask what is the purpose of the requirement? It is evidently to guard against monopolistic discrimination, and here again we have a property stipulation put into this measure to enforce a sovereign mandate. Now, why was 50 per cent selected? It was either a matter of convenience of expression or was dictated by some false idea of symmetry in the partition of hydroelectric service. It is altogether probable that the author of that particular clause would have been glad to accept 49, 48, or 53 or 54. If that is true, it emphasizes the fact that the object to be attained is the important thing, rather than any definite apportionment of service to one consumer. In the first place, the clause permits a man to sell 50 per cent of the total output to one party, and yet in the majority of cases, especially public-utility service in cities, that very license will constitute the rankest kind of discrimination. You get more discrimination on the 50 per cent basis in cities than you ever would on the 90 per cent or the 100 per cent basis in industrial service.

Mr. RAKER. Just explain that, will you?

Mr. LEIGHTON. Suppose the electric company in the city of Washington, having a definite capacity of plant, should come to me and contract with me to deliver 50 per cent of its output. That would be discrimination against every one else in the city. Here you give a man, absolutely, by tying him down to 50 per cent, the right to indulge in such discrimination.

Mr. RAKER. In other words, I give the man who has bought the 50 per cent an opportunity to——

Mr. LEIGHTON (interposing). To turn around and whipsaw you.

Mr. RAKER. Yes; I see.

Mr. LEIGHTON. On the other hand, it is inevitable that some of our power sites must be totally devoted to one purpose. Take the Nitrogen Fixation plant—such a plant will not start in unless it can see 100,000 or 200,000 horsepower ahead. There are very few sites of this capacity in the United States. Consequently the development of the industry will involve the acquiring of not only one

site, but many sites for a single purpose, and surely you can not call that discrimination.

The CHAIRMAN. May I interrupt you there for a moment?

Mr. LEIGHTON. Certainly.

The CHAIRMAN. The thought there, you will observe, that it is not mandatory at all, and furthermore, you will observe, that supposing a large company should come into a community where the local people needed the water for irrigation, it would be a hard thing to do to allow them to strip that community of the advantages and serve another community at, perhaps, a little higher rate, and leave that community to struggle, smother, and strangle when the power was conveyed to some other community.

Mr. LEIGHTON. Theoretically you are correct, but practically nothing of that kind will, in fact, happen in this country.

The CHAIRMAN. Why might it not happen?

Mr. LEIGHTON. Because if you have a community that wants the power for irrigation, and the company that is operating the power site in that locality happens to be delivering its complete capacity to one consumer, that company will be only too glad to go out and get the power to supply that new demand. The company is in the power business, and is not throwing away any customers. Right there is an important point. There is a general tendency to regard any particular power site as standing alone and aloof. In point of fact any power site is pretty nearly bound to lose its entire identity in a transmission system along with other developed power sites. It is not the power site at all, but the system of transmission wires that is the immediate factor of supply. So long as the wires cover the area of demand it matters not from which particular power site the power is derived. The reverse of your proposition would be true. This power company would have its agents out in that country in advance of demand endeavoring to get business, and the company would secure somewhere, somehow, power to supply that created demand.

The CHAIRMAN. If there were any conditions of that kind the Secretary could very easily refuse to let them sell that power, and it is merely a club to insure that.

Let me remind you that when this conference was on suggesting that, that came from the Senators who were fearful that their local power might be stripped away from them for a higher-priced market, and leave them without power.

Mr. STOUT. I apprehend that that suggestion came from our State, from Senator Walsh.

The CHAIRMAN. It did come from him and from Senator Marcus A. Smith, who has had similar experience.

Mr. LEIGHTON. You have no public-service regulation in Montana?

Mr. STOUT. No.

Mr. LEIGHTON. But of course public-service regulation is a new thing in all the places, and it is going to be more and more efficient as time goes on. That is certain. We are all imperfect when we start in. My idea is that you ought, instead of putting an arbitrary limit on the amount of power which a company can sell to one person, to fix your attention upon the real object, monopolistic discrimination, and prohibit it in terms in that bill.

Mr. RAKER. How would you do that?

Mr. LEIGHTON. Provide that there shall be no monopolistic discrimination in the partition of service, and that the service shall always be devoted to the highest use in that particular area served.

The CHAIRMAN. Right on that point, the Sherman antitrust law, as has been stated, is as effective a law as we have on the statute books, still it has not been accomplished. We are trying, if we can, to accomplish that.

Mr. LEIGHTON. I think the Sherman antitrust law would accomplish thorough regulation. You will admit, I think, that it is accomplishing more now than it did five years ago. I do not think we can go back to the history of the Sherman antitrust law in order to predicate what is going to happen with water-power regulation, because we are starting out now with all these years of experience in the practical application of the Sherman antitrust law. We have learned much.

Page 3, lines 12 and 13.

Mr. RAKER. Just before you pass to that, have you any concrete suggestion that you would put in in the place of the provisions you have been talking about?

Mr. LEIGHTON. Yes. I am just going to make that suggestion, Judge, with respect to section 3.

Mr. RAKER. All right.

Mr. LEIGHTON. I would strike out all in section 2 after the word "power," page 2, line 17, and cover the point in the provision in section 3, lines 3 to 11, page 3.

Mr. RAKER. Lines 3 to 11?

Mr. LEIGHTON. Lines 3 to 11, page 3.

Mr. RAKER. Oh, yes, I see.

Mr. LEIGHTON. I think you are going to have some trouble if you leave in a provision in the bill that gratuitously acknowledges that the Secretary of the Interior may permit the physical combination of plants and lines. It will surely bring upon you the charge of encouraging monopoly. However, that is just by the way. The facts are that water power is a natural monopoly, and the discretion of the Secretary given here can not by any means change the physical facts upon which that natural monopoly rests. With reference to that natural monopoly, we may constructively compare it with the Post Office Department. Supposing you had two competing post offices and two sets of letter carriers, one uniformed in red and the other in green. We would not get any more letters and probably would not be as well satisfied as we are now, but we would pay double for the service. Take the same analogy with reference to two competing city water supplies. The thing to be guarded against is covered in lines 7 to 11 on page 3. My idea to cover not only this particular point of physical combination, but also monopolistic discrimination in service, would be to put it all in there and say that there shall be no physical combination which shall accomplish this and that and the other evil.

Mr. RAKER. Right there, would a question interrupt you?

Mr. LEIGHTON. Not at all.

Mr. RAKER. Suppose, Mr. Leighton, you had two plants supplying different communities, and one had given all the service that the community would take and had an excess of electric energy.

Now, by joining the line of the other one and transmitting all of the energy to another place they could do it economically, save expense and cost, and it would create no monopoly. Has not that a tendency to curtail the price to the consumers to have it done if it could be done?

Mr. LEIGHTON. It must reduce the price to the consumer under any such arrangement. That is the whole reason for its being combined—not the whole reason, but the main reason.

Mr. RAKER. If it can be done, ought it not to be done?

Mr. LEIGHTON. It ought to be insisted upon. I often said before I left the Government service that if there was not a water-power trust, there ought to be one in the interest of public service. Of course, that contemplates an absolutely perfect regulation in the public interest.

Mr. RAKER. I am assuming now, you understand, in that question, that there is regulation.

Mr. LEIGHTON. Absolute regulation.

Mr. RAKER. Absolute regulation, and that they only charge what is a fair charge to be paid for their interest and depreciation and risk, and then let the public get the benefit, but that there should not be two lines, two systems run at an expense of $200,000 or $300,000. If a plant, after it had supplied the local community, could go on to a further distant place and give public service, ought they not to do that?

Mr. LEIGHTON. That is just right, from my point of view.

Mr. RAKER. Is it your idea that this proviso as suggested by Mr. Pierce would carry that out?

Mr. LEIGHTON. Well, now, I think so. "That there shall be no physical combination of plants or lines for the generation, distribution, and use of power or energy under this act or under leases given hereunder creating combinations, agreements, arrangements, or understandings," etc. That would carry that out, only you might add to that, "The creation of monopolistic discrimination in the distribution of the power."

Mr. RAKER. In other words, this provision would permit physical combination for the generation and distribution so long as it did not create a monopoly and increase or curtail the output or the price to be paid?

Mr. LEIGHTON. So long as it did not lead to bad conduct of any kind.

Mr. RAKER. Yes.

Mr. LEIGHTON. And that would be controlled under the laws governing water power.

The CHAIRMAN. We will now take a recess until 10 o'clock Monday morning.

(Whereupon the committee took a recess to 10 o'clock a. m., Monday, May 4, 1914.)

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE PUBLIC LANDS,
Monday, May 4, 1914.

The committee met at 10 o'clock a. m., Hon. Scott Ferris (chairman), presiding.

Mr. GRAHAM. Mr. Leighton, is there any agreement as to the amount of time you have left?

Mr. LEIGHTON. I think not, sir. I said that I would like to have a half hour or three-quarters of an hour, and on Saturday I spent a large part of my time in answering questions, so that I do not know how much time I have remaining. I will be very glad to quit any time you may feel tired of hearing me.

Mr. GRAHAM. About how much time do you think you should have to make your statement complete?

Mr. LEIGHTON. I would like to have at least half an hour this morning, as the inquiries of Saturday opened up a new line upon which I touched only briefly.

Mr. GRAHAM. You may proceed.

STATEMENT OF MR. M. O. LEIGHTON—Continued.

Mr. LEIGHTON. On Saturday I made the statement that any person who was acquainted with the Secretary of the Interior could probably go to him with this bill and secure a satisfactory arrangement. I want to make sure that no one understood me as asserting that personal influence would have any effect upon the Secretary of the Interior. My idea was to show that the apprehension of an investor would be largely modified if he knew the personal attitude of the present Secretary. We had come down in the consideration of the bill to page 3, line 14. I will ask your attention to that portion which prohibits the sale or delivery of power to a distributing company except under the written consent of the Secretary of the Interior. It is a precarious thing for a power company to develop a market. This particular provision is aimed at monopolistic discrimination, as was the 50 per cent provision in the preceding paragraph. Again I ask why not directly prohibit the discrimination in terms rather than attempt to accomplish it by indirection, which will constantly be a menace to a company's operations? On the other hand, this clause is a distinct invitation to any power company to own everything in sight. All the rest of the bill in terms and intent is a protest against unnecessary monopoly, and yet here is a clause which specifically encourages unnecessary monopoly. It is an inducement to every power company to extend its sphere of operation. It will be admitted, I believe, that either the distributing company must develop its own power or the water power company must own its own distributing lines. This is an artificially created condition. There is no reason why a distributing company that produces power in large blocks can not be controlled and regulated in the public interest quite as well as the generating company which sells the power in large blocks. Again, we have that same point that I made on Saturday; that of a property stipulation, the use of which will be indirectly to achieve sovereignty, but the only practical effect of which will be to hamper development.

Sections 5 and 6, pages 3 and 4, I think are imperfect in that they leave a possible hiatus between the end of one lease period and the beginning of the next. Section 5 provides that upon three years' notice and at any time after 50 years the Government may take over certain leases. Suppose notice were delivered in 60 years. Section 6 provides that at the same time and under the same conditions the

Government may take over and give to another lessee or renew the lease to the same lessee, so that there is a hiatus which may take place should the Government not act as empowered by these two sections at the end of the 50-year period. My suggestion is that that be covered by providing in section 5 that after 50 years have expired the lease shall continue automatically until the Government does exercise its right of issuing a new lease or taking over the property. I think it only fair at the end of section 6 to put in some provision whereby the original lessee may have preference right of lease renewal, if, of course, his conduct has been good.

On page 3, lines 23 and 24, I recommend the substitution of "fair value" for "cost" or for "actual cost." Actual cost as it stands there may in many cases be against the public interest. There are many times when a power company is obliged to pay for a piece of property far more than its fair value because of its strategic value, which the owner realizes and for which he is not at all loath to hold up the company. But more important than that, I think, is the decision of the Supreme Court in the Minnesota rate case. I will quote briefly from that report. This is in that part of the discussion relating to the valuation of the properties, and the court says——

Mr. SINNOTT. Mr. Leighton, will you give us the number of that report?

Mr. LEIGHTON. It is found in Senate Document No. 54, Sixty-third Congress, first session. The number of the report is 291, 292, and 293, October term, 1912. The court says:

> It is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual investment. If that has been reckless or improvident a loss may be sustained which the community does not underwrite, as the company may not be protected in its actual investment. If the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value, if it be more than its cost. The property is held in private ownership, and it is that property and not the original cost of it of which the owner may not be deprived without due process of law.

I think that there has been expressed here a fallacy with reference to the economic theory upon which we are proceeding. One of the witnesses has made the point that if the act provides for "fair value," and the property becomes enhanced in value its cost to the Government might be practically prohibitive, and the Government could not or practically could not take it over. We are proceeding in this bill and in our general effort to protect the public interest on a rather new economic theory, which involves the depression or regulation of profits and the return to the people of all profits in excess of a fair return on the investment. Now, value depends on final utility. The final utility of property, from the investment standpoint, is measured by what it will return in dividends. If the dividends are by law actually depressed or kept at a certain figure, then the value of the property must automatically be kept at an equivalent figure. You can not adopt a new economic principle for dividends and then fall back on your old economic principle for the enhancement of value of property. The one follows the other as shadow follows substance. The value of a property is in any case just what it will produce, and if you limit the production of a property there is no chance under heaven for the value of that property to go up.

Those two points, the Supreme Court decision and this little adjustment of our ideas with reference to the economic principles, are all that I have to say on that particular point.

On page 5, line 8, I recommend that there be inserted before the word "secretary" a provision that the public-service commission of the State may certify to the approval of contracts that necessarily extend beyond lease period. That is so for many reasons. Among the important ones is this: That in the case of manufacturing plants like the electrochemical, and especially the nitrate of lime plants, large centers of population are going to develop which will be dependent for their existence upon the industry and the continuance of that industry. Now, the stability of the industry is going to determine the stability of the town, or of the several towns, and that very thing will be a large factor in the floating of municipal bonds, road bonds, and school bonds, and the like of that, all of which will be under State control, and so this bill should have a provision for the approval of a bona fide contract by the local public-service commission.

Mr. RAKER. Right there, Mr. Leighton, if it does not interrupt you. Is it your theory that when there is a public-service commission in any State the provision as to this bill should apply exclusively to that commission, and the power should not be lodged in the Secretary of the Interior?

Mr. LEIGHTON. Well, in general, Judge, I would say yes. There may be some things which should remain under the control of the National Government, but I do not recall just what they are now. I would be very glad to take the time to look that over and give you my written opinion on it.

Mr. RAKER. I wish you would.

Mr. LEIGHTON. I can not recall all the facts now, but I am very clear, however, that if there is no public-service commission or no other agency by which rates and services can be regulated in the public interest, the Secretary of the Interior's control should prevail, not only in interstate service but right down to the ultimate consumer in intrastate service.

Now, there is a little danger, I think, in section 7. It says that where, "in the judgment of the Secretary of the Interior, the public interest requires the execution," etc. All those great investments and contracts are made dependent upon the judgment of the Secretary of the Interior as to the requirements of the public interest. Now, the judgment of one Secretary of the Interior as to the public-interest requirements may differ from that of another Secretary. A Secretary presiding at the time a lease expires would have it within his power to determine whether the condition precedent, viz, the public interest at the time the contract was made, did justify such a proceeding, and the contingency is sufficient to qualify the guaranty given in that clause of the bill. All the language between the word "that" in line 3, section 5, the word "contracts" 55 in line 5 should be stricken out. The Secretary of the Interior does, however, under my suggested amendment, come into the matter quite as much as under the present language because it provides for his approval, and, of course, if he did not think it was in the public interest he would not approve it.

Mr. RAKER. Right in that connection, if the Chair will permit me. You have given this matter considerable thought. Upon what basis

would the Secretary of the Interior use his opinion or judgment, and if used to the disadvantage of a company that has a lease, or an individual, what method is there in this bill, or by what means would the parties get relief, or even the Government if the Government was not properly provided for? Just assuming a case of that kind, how could that be gotten at under this language?

Mr. LEIGHTON. I think it could not be gotten at.

Mr. RAKER. Suppose the Secretary should cut it away down low and give them a right to go on, and it would be against the public interest; would there be any method to take care of that?

Mr. LEIGHTON. I see no method in this bill, and I see no method of correcting that fault without excluding the Secretary of the Interior or the public-service commission, and I do not think that would be a wise policy. I think we have got to accept, and I know that many public-service men are accepting, public regulation as an accomplished fact. While in many cases it is a hazard from the standpoint of the investor, of course there are hazards in every business, and as long as they do not pile up too high they must be accepted.

Mr. RAKER. Is not there a hazard on the public interest as well?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. One other question and I am through. From a ruling by the public-service commission or a similar authority in the State, both parties have a right to go farther, if a wrong determination has been made by the commission, have they not?

Mr. LEIGHTON. That is true in some States, but not true in others.

Mr. RAKER. I see.

Mr. LEIGHTON. In some States an appeal from a public-service commission can be taken only under the pretext of confiscation.

Mr. SINNOTT. I would like to ask you a question there.

Mr. GRAHAM. Make your question as brief as you can, because Mr. Leighton's time is slipping away.

Mr. SINNOTT. Section 5 provides that the United States may take over the plant. Is there any provision in this bill whereby the United States may operate that plant if it sees fit?

Mr. LEIGHTON. Only by inference. It would have to be under subsequent legislation. Congress would have to act in each case in order to provide the money to purchase. I suppose the authority to operate would be included in that legislation.

Now, with reference to section 8, I would like to pass over that for the present and come to section 9. I think that if you provide that the Secretary shall control in case there is no public-service commission this section is entirely unnecessary. Personally, I do not like it, because it places a State under a measure of duress to enact laws satisfactory to the Federal Government or to the Secretary of the Interior. If you will consider the Constitution, section 3, article 11, where it provides that Congress shall have power to dispose of and make all needful rules and regulations, and so forth, you will find that it ends up with the proviso that nothing shall be construed as to prejudice the claims of the United States or of any particular State. I suggest your consideration of that clause in connection with this section. Also, in the Kansas *v.* Colorado case (206 U. S.), the court emphasizes very strongly the fact that each State stands on the same level with all the rest.

Mr. TAYLOR of Colorado. Do you assume that in this legislation Congress is paying much attention to the rights of the States or to the Constitution of the United States?

Mr. LEIGHTON. I wish you would not ask me that.

Mr. GRAHAM. You do not have to answer that. Proceed.

Mr. LEIGHTON. Very well.

Mr. GRAHAM. Some of the States are mighty anxious to get help from the Federal Government now.

Mr. LEIGHTON. Now, I will take up page 8, section 13. That section covers, in a very practical way, I think, all necessary authority of the Secretary to make rules or regulations in conformity with the act and excludes the necessity for general regulatory power covered in the first section of the bill.

I suggest that you omit the whole of section 14, because the legislation and its application to the public lands and rights of way is in such complicated shape now, so many things are undetermined, and so many things are before the courts, that you will not know just what you are repealing or what you are leaving on the statute books.

Now, with reference to the Federal rentals or taxes, section 8—I will conclude, Mr. Chairman, in a very few minutes.

Mr. GRAHAM. Your time is not out yet.

Mr. LEIGHTON. To some persons the legal or political view of the situation appeals most strongly. Whether the Federal Government is justified, either in law or in national ethics, is an old question which involves considerably more than water power. Inasmuch as this committee has undoubtedly had the matter presented to it from many points of view in connection with public-land measures, I would not take time for further discussion, even if I were qualified to do so. I will therefore merely state that so far as the relations of the people to water power are concerned the question is merely an incubus on water power, and it would be fortunate if the water-power issue could be determined for the present on other grounds than that of State versus Federal Government, reserving final commitment with reference to this particular point until such time as the whole question of Federal and State relations can be worked out. The West needs water power, and that need absolutely transcends in importance the settlement of the question of Federal taxing power.

The water power company or power producer engaged in public-utility service, like city service, and regulated therein, is, so far as my observation goes, relatively indifferent to the imposition of a Federal tax or rental. His difficulties relate to tenure and the opportunity to do business in a businesslike way, pay a reasonable return to the invested capital, and give good security to his bondholders. I know of no set of men in the entire country who are as thoroughly and genuinely convinced of the necessity for public regulation of water powers than are those men who are engaged in water-power business, nor who accept more cordially the principle that profits on these investments should be limited to a reasonable return to the capital actually invested. Taxes or rentals constitute a legitimate overhead charge; they must be allowed in any rate-fixing process, and be they much or little, they must be paid by the consumer.

Mr. RAKER. You do not agree, then, with Mr. Pinchot, do you?

Mr. LEIGHTON. Absolutely not.

Mr. RAKER. Mr. Pinchot stated that the extra taxes obtained by the Government would not affect the ultimate charge to the consumer.

Mr. LEIGHTON. Whether it be much or little, it is bound to affect it, and you can not get away from it. Mr. Fisher made the point that it would not affect a manufacturing company that was not in public-utility service. My answer to that is: Do not put manufacturing companies where they can possibly avoid public-utility service. Make the relation between the water power company and the manufacturing plant one of public-utility company to consumer. That is why I suggested that you confine this bill to public-utility companies alone.

Mr. RAKER. And leave the others stand or let them be modified?

Mr. LEIGHTON. The big manufacturing companies are doing that of their own volition now. I do not know of a big investment that has been made lately in water power where the manufacturing company itself has done the work under its own name. It has all been through a separate construction company which has been a public-utility concern, and there is no reason why a public-utility company should have more than one customer if it has not power to supply more than one customer.

Mr. SINNOTT. I would like to get your ideas more clearly on this point. You are familiar with the fact that in Oregon some of the canneries have little water-power plants from which they get their power along the river to use in their canneries. Now, how would you regulate that to bring it under the public-service commission?

Mr. LEIGHTON. With reference to another cannery?

Mr. SINNOTT. No; just to use it solely for its own purposes.

Mr. LEIGHTON. Well, that is a small matter. I would leave that under the present act of 1901. Let that act apply to all such cases. The fellow that wants a small water power that does not run up into very much money——

Mr. SINNOTT (interposing). Or to operate machinery in a cannery.

Mr. LEIGHTON. Exactly. I would leave that under the present act of 1901, because there is no difficulty in a matter of that kind. Now, with reference to the Federal rentals. So far as a power company engaged in public utility service is concerned, the whole matter is up to you. If you find it wise to compel these power companies to legitimately and legally increase their consumers' rates over and above what otherwise they would be, in order to pay the Federal Treasury a tax or rental, the explanation of the matter to your constituents, the consuming public, is solely and absolutely your affair, and the public service company does not care.

Mr. RAKER. Now, what do you mean by that, now? Just explain that a little further.

Mr. LEIGHTON. Now, in your district you have a water-power company?

Mr. RAKER. Yes; there are lots of them.

Mr. LEIGHTON. If by your act on this committee you subject them to a Federal tax, you have got to explain that matter when you go home to your people, I assume. If you have by your act raised the consumers' rate it is not a matter of particular concern to the public utility company. They get the money from the people and they pay it to the Government.

Mr. RAKER. May I ask this question, Mr. Chairman?

Mr. GRAHAM. Mr. Leighton has only five minutes left.

Mr. LEIGHTON. I want to reply to his question.

Mr. GRAHAM. I know it is embarrassing——

Mr. LEIGHTON (interposing). Not at all.

Mr. RAKER. In other words, if a heavy tax is put on and it is paid to the Government, all the men living in that territory or adjacent to it, who obtain water or power from this company, in turn have to pay back in substance this tax to the Government?

Mr. LEIGHTON. Unquestionably; there is no escape from it.

Mr. GRAHAM. Proceed, Mr. Leighton.

Mr. LEIGHTON. There is, however, one respect in which a water-power company is interested, and that is in the amount of rental. If it is so large that in any given place the cost of water power reaches or approaches the cost of steam power, then no water power will be used in that place, and the reason is that with both kinds of power at or near the same price, the wise consumer will always choose steam, for the reason that it is subject to fewer interruptions and its application to special conditions is more elastic. Now, except in a few unusual conditions, the cost of water power is not so very much less than the cost of steam. There are some steam plants in this country that are generating power at a cost less than it can be produced by any water-power company in the United States. I know a case in Arizona where a company which operates a hydroelectric plant has had steam electric power offered to it at a price so cheap that it almost makes it economical for it to scrap its hydroelectric plant. In another case in a Western State where the power is supposed to be cheap and abundant, a hydroelectric company will in a few years reach its limit of power capacity. It does not propose to erect another hydroelectric plant, but it proposes to erect a steam plant.

We have had a case similar to that right at our own doors. I refer to the proposed development of water power at Great Falls. The major rights to this power are owned by the local electric company. When that company required more power a few years ago it found it better and cheaper to go over to Bennings and build a steam plant than to develop its own water-power property. Now, these are isolated cases, but there are many others like them. I assure you that the number of such cases throughout the country is greater than those in which the cost of steam power lies away below that of water power. The cost of steam power is small and it is going to be smaller, because the efficiency of coal in steam boilers is increasing and is going to increase more. The absolute efficiency of hydraulic machinery is, on the other hand, well nigh attained. So it is that in laying taxes on water power much wisdom must be exercised in dealing with the question.

When we turn from utility service and come to manufacturing we face a more serious condition. You can not rent a store to a merchant if the fellow across the way has as good or better a location and as good or better a store at a lower rental. Now, that is precisely the condition that confronts this country. Canada, Europe, Labrador, and even Iceland, have much chaper water-power facilities than ourselves, and much cheaper labor to build them. The cost of water power in Norway and Sweden is from $4 to $8 per horsepower

per year. A project is being financed in Iceland, the operation cost of which will be 48 cents per horsepower per year. A project has been constructed in France which is reported to cost, for operation, 37 cents per horsepower per year. The average cost in this country is $20, varying from $10 up to $60. A huge amount of American capital has gone into those foreign industries and they are very well satisfied with the terms given them by those Governments. They very properly ask why they should come back here and pay a larger price for power and then place on top of that an overhead charge for rental. We have lost our match industry and our wood-pulp industry is going fast. One-quarter of all the print paper that we consume is now being imported. The electrochemical industry, which has made over the industrial map of Europe, has not even got a healthy start in this country.

We paid last year $41,000,000 for nitrogen compounds, every pound of which could be made here if we had cheap water power. We bought nitrate of soda from Chile to the amount of $22,000,000, and the price was fixed by the nitrate board of Europe, a trust which we can not control. To get that amount of nitrogen from the air in this country would require the development and operation of 1,200,000 water horsepower, or about one-fifth of all that we have now developed. Now, if that amount of water horsepower was developed and controlled here by a trust that fixed prices according to its own ideas and was not subject to regulation we would soon have a national riot. But, gentlemen, we have put that power into the hands of a foreign trust and we have allowed our own water powers to go to waste. Now, if that situation confronted a business house in this country it would pay a subsidy or bounty on water-power development instead of laying a rental on it.

Mr. GRAHAM. Your time has expired, Mr. Leighton.

Mr. RAKER. How long will it take you to conclude your statement?

Mr. LEIGHTON. I should say 15 minutes.

Mr. RAKER. I move that Mr. Leighton be given 20 minutes additional to complete his statement.

Mr. JOHNSON. I second the motion.

(The motion was carried.)

Mr. GRAHAM. Your time is extended 20 minutes longer.

Mr. LEIGHTON. Now, a final word with reference to the political economics of this Government. I quote briefly from a paper on this subject by Mr. Halford Ericsson, a member of the Wisconsin Railroad Commission. I do not need to extol that railroad commission to the members of this committee or to this country. Their good service is well known. Mr. Ericsson says:

> In the Wisconsin and the other public utility laws, and in the decisions upon them, it is recognized that the truest protection of the public involves proper protection of the instrumentalities which serve the public that arbitrary and unjust treatment of those instrumentalities is in the long run as injurious to the public as to those interests. After all, there can be no justice to the public which means injustice or wrong to those who serve the public. This brings us to that feature of legal regulation which often finds expression in a rental charge or a toll upon the earnings of a utility over and above the regular tax adjustment. Such rental or toll is sometimes spoken of as a sort of profit sharing plan, and is often pointed to as an example of wise regulation and something to take the place of other regulation.

You notice that in our hearings that point has been brought out. Mr. Ericsson continues:

Closer analysis of the fact from a social and economic standard indicates quite clearly that this toll is a tax levied upon other than sound business principles of taxation, and that it is an unwise burden on the service of the utility. The primary reason why franchises are granted to public utilities is to promote the welfare and comfort of the public as the users of public utility service rather than the subservience of the interest of the public as tax payers or because of these utilities becoming a source of revenue. Such increase in the cost of the service caused by extra tolls of this kind, is seriously felt by the consumer.

I will not read it all through, but Commissioner Ericsson makes the point that taxation is based on the ability to pay, and that the tax on a public utility is really a tax paid by the consumers, the majority of whom are not able to pay, and therefore it shifts our old principle of taxation from the property owner, the man who is able to pay by virtue of the fact that he is a property owner, to the consumer, who is not usually the tax paying party.

Supplementing this, I wish to add that an idea seems to prevail in the minds of some men that these public land power sites have broad possibilities as producers of revenue. It is even suggested that it is a good thing to prevent development of these sites at the present time because they are growing more valuable all the while and will some day produce sufficient revenue to pay the national debt. That has actually been suggested, but such an assumption presupposes a condition of bargain or sale or rental between two parties which have and can have no community of interest. Now, that condition can not exist between sovereign and subject, and when we thoroughly analyze the subject, we finally come back to the very old established economic principle given in the school textbooks that wealth can not be created by taxation. The Chicago Traction ordinance has been mentioned in these hearings as an excellent thing. Well, so it is. You ought to know, however, that when that Chicago Traction ordinance was proposed by ex-Secretary Fisher, the franchise had already expired, and the holders of the securities were mighty glad to get anything. Of course, the thing has worked because it is a fine property, and it has paid well. It has paid, I understand, $14,000,000 into the treasury of the city.

Mr. RAKER. Now, I did not have the opportunity of asking this question of Mr. Fisher or Mr. Pinchot, but I want to ask you this: In the Chicago matter there is a going concern that made a success, and this question of continuance was only the fact that Chicago issued the extension on demand. On the other hand, the water-power development is a question of extending and developing a market.

Mr. LEIGHTON. Yes, sir. The hydroelectric plant is never completed. It is always stretching out. The Chicago Traction Co. had not made much money previously but that was due to bad management. There is no question about that. But the point I want to call your attention to here is that $14,000,000 or $15,000,000—I forget which—has been paid into the city treasury by this company. And who paid it? It was not the people who own the land in Chicago. They have been relieved from taxation by an amount of $14,000,000 or $15,000,000 in these years. No; it was the workman, the working

girl, the washerwoman, the seamstress, the poor person, out of whose pockets came the $14,000,000 or $15,000,000, because the men who pay the heavy taxes in Chicago ride in automobiles.

Mr. GRAHAM. I have heard it suggested that the fellow who rides in the automobile manages to shirk paying taxes.

Mr. LEIGHTON. Yes, and in this particular case he is clearly assisted in so doing.

Mr. GRAHAM. Well, it is not quite true in either case. The poor pay taxes and the rich do too.

Mr. LEIGHTON. Yes, sir. Just one thing more with reference to section 8, and then I will close. With respect to the provision contained in this bill authorizing the Secretary to fix and collect charges or rentals, it will, if industrial stability is to be established or maintained, be necessary to fix in terms the amount of the rentals to be charged. In embarking on a large financial operation, those who are investing the money are entitled to know what this rental shall be throughout the entire term of occupation. Further, and more important, the investors are entitled to know what shall be the rental fixed upon in subsequent extensions of the original plant. As I tried to emphasize on Saturday, it is not the first lease that you take out under this bill that is always going to be the big thing, but the leases subsequent, under which the property is going to be extended. You have got to add new sources of power and they will undoubtedly exist on the public lands.

Now, the Secretary of the Interior in office at the time such extensions are made may encumber your second plant so that the first one is largely deprived of its investment value. We do not know surely about this because we do not know who a Secretary of the Interior is going to be. The menace exists none the less. Power development is not a single-track road proposition. I think if we would realize that we would lose a lot of our difficulties and theories about hydro-electric systems; they must be extended indefinitely to meet the compulsory demands of public service. In practically every case the first developments are only the beginning. Who can tell what will be the attitude of a coming Secretary of the Interior? We do not know.

Now, in conclusion, just let me call your attention to the fact that this bill puts almost everything into the hands of the Secretary of the Interior. As I said in the beginning, I have every confidence in the present Secretary and I had in the last one, but I do not know who the next Secretary will be. This bill comes before this committee indorsed by a formal letter from the Secretary of the Interior. His predecessor comes here and disagrees with him very strongly on very material points. Mr. Pinchot comes here, and, under certain political contingencies, which I do not need to name, he might, if he desired, become the next Secretary of the Interior. He differs from both Secretary Lane and Secretary Fisher. I do not think I need to suggest anything more with reference to a possibly chaotic future in the power business.

Mr. RAKER. Now, I want to ask a few questions, and first I want to make a statement for the record. My questions do not assume and ought not to be taken as the attitude of a member of the committee, but I want to obtain facts and information from a man on the witness stand for the benefit of the members of the committee. I state that

for the record for the benefit of the Members who are not here as well as those who are here. Now, Mr. Leighton, take the matter as it stands in the public-land States, the water-power sites, which, as I take it to mean, is the land located so that others who have water rights may obtain the energy of the water by falling down hill—is not that about the situation?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. The land alone, practically all the power sites, is of an inferior quality of land, generally speaking, is it not?

Mr. LEIGHTON. Except for power purposes?

Mr. RAKER. Well, I am leaving off the power purposes. The land itself is ordinarily in the mountains, in the gorges, and on the hillsides; is not that about the general situation?

Mr. LEIGHTON. That is one of the essential characteristics of the power site.

Mr. RAKER. And that out of the canyon—not on the hillside, but in the high valleys and in the mountain ridges, generally speaking, standing alone, its value to the Government is very small, is that about right?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. The value that will be added to the power sites, the reservoir sites, and the ditch lines along the hillsides is by virtue of the water that is owned or controlled by the State or by individuals?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. Now, ordinarily speaking, as it stands to-day and has stood from the beginning, so far as this energy is concerned, without being harnessed by these hydroelectric plants, it has gone on into the sea unused and practically useless so far as the hydroelectric question is concerned?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. I want to get that clearly in the record and see if my premises come out correctly. Now, the use of hydroelectric power saves wood in that connection, does it not?

Mr. LEIGHTON. And coal, too.

Mr. RAKER. Well, I want to go on to the whole thing. It saves coal, saves oil, and saves all other combustible materials that we are using now for fuel?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. Which can be used for lighting the home, heating the home, cooking and practically all domestic purposes?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. We find that is the condition?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. And while we are using this electric energy we are saving the forests, is not that true?

Mr. LEIGHTON. Undoubtedly.

Mr. RAKER. With the remaining public domain, with the timber on the public domain, with the coal supply in these Western States, with the oil supply in these Western States, with the statement given that the lands now in the ownership of the United States, practically of but a small value, if this land is used in connection with the other rights for hydroelectric development, it adds that much more to

the Government property and gives the Government an opportunity to reserve, conserve, if you please, the natural resources of this Government, does it not?

Mr. LEIGHTON. It does.

Mr. RAKER. Well, now, as to the question of public policy, assuming now that we are all in favor of Government or State control of water-power development.

Mr. LEIGHTON. With full regulation?

Mr. RAKER. With full regulation, complete, so that the public that receives the use of the hydroelectric power should not be mulcted in large sums, but will receive it at the lowest possible cost. That is an advantage of the State, of the community, and of the National Government?

Mr. LEIGHTON. Ordinarily.

Mr. RAKER. Now, if that is true, if the statement of those gentlemen is true and can be carried out in a method of handling our public lands, would it not be better for the Government to assume and hold and maintain a control, so as to prevent monopoly, so as to assist in proper regulation, so as to see that the consumer gets the product at a reasonable price and not make a profit upon the mere fact that it owns the land, for the purpose of reserving and conserving the rest of its natural resources?

Mr. LEIGHTON. That would be my view of the whole situation.

Mr. RAKER. Now, is there any possible loss in the way of material to the Government in any conceivable way by virtue of using its land for development of hydroelectric energy?

Mr. LEIGHTON. I have never been able to find any unless you include the matter of administration. I think it is only right that the power people and the power consumers should pay for that and, all things considered, I think that 25 cents per horsepower per year is a reasonable and excellent suggestion. It has been made here in this committee, I understand. I think, in the first place, that any water-power development that is not so well assured of a future as to be able to promise 25 cents per horsepower per year had better not start.

Mr. RAKER. The point I am trying to illustrate, as now stated and as I think ought to be conceded by all, is that the use of the land and the power sites by which you use the water—you are not destroying any natural element at all; you are not consuming it?

Mr. LEIGHTON. No, sir; you are preventing waste.

Mr. RAKER. You are saving timber, coal, oil, and all other material of that kind?

Mr. LEIGHTON. And the energy being wasted by that stream.

Mr. RAKER. Now, if the Government charges simply for the administrative features of the regulation, would not that be in the same nature that we have been granting our homesteads and other public lands to improve the community in which we are located?

Mr. GRAHAM. I do not like to hurry you, Judge, but are you not wandering too far afield from the subject under discussion?

Mr. RAKER. No; this is my theory.

Mr. GRAHAM. I do not think the homestead theory enters into this question at all.

Mr. RAKER. No; but I want to call his attention to the fact that the homesteader goes out and builds up the country in the same way—

Mr. GRAHAM (interposing). Well, but please be brief, because I want the questions to go around the table.

Mr. LEIGHTON. I think I have got your point, Judge. We have gone so far as to hear the proposal that the company be allowed to make up to a certain percentage, and all that it made over and above that point be divided with the Government. That means that the sovereign says to the company, "Here, you make a reasonable return to capital first. Then you are permitted to make more than a reasonable return, and then you can squeeze more out of the public in excess of the reasonable return provided you give me half the swag." There is no other interpretation for such a thing as that.

Mr. RAKER. In my questions I hope that you will not assume or that any of the committee will take it as an assumption upon my part that I am proceeding in any way to give any advantage to the hydroelectric company, but far to the contrary.

Mr. LEIGHTON. Absolutely, sir.

Mr. RAKER. The purpose in my mind, if I can develop it, is that it would be to the interest of the Government, to the interest of the State in which these sites are located as well as to the county, if they were permitted to be used to their highest efficiency, and every drop of water used to produce electric power at a nominal cost so far as the Government is concerned, enough to cover administration, to the end that that community and that State might be developed. Would not that be the result?

Mr. LEIGHTON. That is my opinion, sir. I believe so thoroughly.

Mr. RAKER. And thereby the remaining public resources, such as I have named, wood, timber, coal, and oil, would be saved and conserved instead of being used at the present time?

Mr. LEIGHTON. Unquestionably.

Mr. RAKER. Would not that have a tendency to build up the community?

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. I guess that is about all.

Mr. GRAHAM. Mr. Taylor, do you desire to ask Mr. Leighton any questions?

Mr. TAYLOR of Colorado. I believe I have none now.

Mr. GRAHAM. Or you, Mr. La Follette?

Mr. LA FOLLETTE. I would rather hear Mr. Leighton talk.

Mr. SINNNOTT. I have one question I want to ask about this rental. You spoke of 25 cents per horsepower per year. Is that a maximum rental?

Mr. LEIGHTON. Why, yes; I would not make any stand as between 25 or 30 or 25 and 20, but enough to pay for the administration of this thing.

Mr. SINNOTT. That is, the total rental from all sources, both State and National, you mean, assuming that the State makes a charge always?

Mr. LEIGHTON. Oh, no; that would be the rental to the Federal Government irrespective of local taxes. I think that any company can afford to pay 25 cents per horsepower per year.

Mr. SINNOTT. In Oregon the rate on 25 cents would be $2.50.

Mr. LEIGHTON. It does not make any great difference whether it is 25 or 20 or 30.

Mr. TAYLOR of Colorado. Your idea is that it would be best for the Government, best for the development of the country generally, and best for the Western States if there is such a small tax that there will be no return to the Western States in the way of money? In other words, your idea is that we should not take money out of one of our pockets and put it into another for the purpose of building reclamation projects out there at the expense of consumers of water power?

Mr. LEIGHTON. That is my opinion. I have never seen the utility of taking money out of one pocket and putting it into another. You can not increase wealth by taxing it in any way. It is merely a readjustment of funds.

Mr. SINNOTT. What are the conditions in Arizona under which power can be produced so cheaply?

Mr. LEIGHTON. The steam plant at the mine in New Mexico could transmit power by wire to Clifton.

Mr. SINNOTT. You have cheap coal?

Mr. LEIGHTON. Yes, sir; that is the point in this industry. That is why the Great Falls of the Potomac is not practicable.

Mr. CHURCH. You concede that even 25 cents per horsepower would have to be paid ultimately by the consumer, but do you think it would take 25 cents per horsepower to cover the cost of administration?

Mr. LEIGHTON. Why, roughly, yes; I think that would be a fair margin to cover all contingencies. I am not speaking by the book at all. But take any particular power plant. I think 25 cents per horsepower per year ought to cover all charges and put the Government a little bit to the good.

Mr. TAYLOR of Colorado. And you think that amount ought to be fixed in the bill?

Mr. LEIGHTON. Oh, that is the important thing. There should be some amount fixed in the bill. Put it all in the bill, if you please. The company does not care—the public utility power business does not care particularly what you do in the way of rental as long as you do it in the bill. But do not leave us to the mercy of a man in an executive position whose name we do not even know.

Mr. TAYLOR of Colorado. Have you made any estimate of the amount of receipts that you would figure on? Of course, that is purely hypothetical.

Mr. LEIGHTON. Not at all. That is just a rough view that I have, that 25 cents would not be too much.

Mr. TAYLOR of Colorado. Did you ever have any thought, from your experience in public office, upon this proposition—that the amount of administration might depend largely upon the amount of receipts that there would be available for consumption in that line?

Mr. LEIGHTON. No. I do not feel, as some people do, that there is such a great danger in bureaucracy. I have a high regard for men in the public service.

Mr. GRAHAM. Mr. Leighton, I want to call your attention to section 5, lines 22 and 23, in reference to the cost of rights of way. You recall your statement on that subject, do you not?

Mr. LEIGHTON. Yes, sir.

Mr. GRAHAM. And you cited the Minnesota rate case?

Mr. LEIGHTON. Yes.

Mr. GRAHAM. Now, was it your thought there that this would be an unconstitutional provision?

Mr. LEIGHTON. I did not have any thought except to refer you to the court case. I read it from the standpoint of the layman, and I do not know.

Mr. GRAHAM. Well, the citation which you gave from the Minnesota case was to the effect that it was the value of the property at the time which should be considered, and that if any other value less than that would be considered, it would be taking property of the company without due compensation.

Mr. LEIGHTON. That is it. It is the value of the property and not its cost of which a person shall not be deprived without due process of law.

Mr. GRAHAM. Then, I assume that your thought was that this provision would be unconstitutional?

Mr. LEIGHTON. That is my idea; but I did not cite that as a legal authority.

Mr.. GRAHAM. But did you not overlook the fact that when the party took hold of it, he took hold of it in a contractual relation?

Mr. LEIGHTON. Oh, precisely.

Mr. GRAHAM. Then, what has the Constitution to do with it, when he takes hold of it on a contract, knowing what that contract contained?

Mr. LEIGHTON. But I do not think Congress should take a club and force anyone to enter into a contract which would be illegal if enforced by direct mandate.

Mr. GRAHAM. Are you not mistaken when you say that Congress uses a club when it says to all the world, "Here is an offer that you can take or not, as you please?"

Mr. LEIGHTON. I do not suppose it is "clubbing." Perhaps that is too strong.

Mr. GRAHAM. Can you give us a word that will fit?

Mr. LEIGHTON. Yes.

Mr. GRAHAM. What is it?

Mr. LEIGHTON. My point is this: That I can not see the ethics of having the Government make a proposition to a man which by some measure of duress at least forces him to execute a contract which, if he were an independent party under the sovereign power of the Government or as between man and man, would not be legal under the decision of the Supreme Court.

Mr. GRAHAM. Do you call it duress of any sort when one party offers to another a situation in the nature of a contract and says, "Now, you can take it if you wish, and if you do not want it you need not take it;" is that duress?

Mr. LEIGHTON. There is an element of duress. I come to the Secretary of the Interior under this bill, and I take out a permit to develop a power site. I go into public service under it. Along comes the public-service commission in 10 or 12 years and says, "Leighton, you must increase your capacity because your market is growing, and you must serve the people well." I come back to the Secretary of the Interior, and he says to me, "You may have another power site under these conditions; take it or leave it." I think that is a pretty good example of duress.

Mr. GRAHAM. I do not recall ever buying anything on any other condition. The fellow who offers it says, "There it is. There is the price of it, and you can take it or leave it."

Mr. LEIGHTON. But you do not have to buy it. I would have to buy.

Mr. GRAHAM. Why would you have to buy?

Mr. LEIGHTON. Because the public-service commission orders me to.

Mr. GRAHAM. Oh, no; you do not have to go into the enterprise at all.

Mr. LEIGHTON. I did not in the first place. No; I came in the first place and secured a satisfactory lease. Now, I come in the second place and take out another lease because the public-service commission drives me to it.

Mr. GRAHAM. But you took out no second lease that was not provided for in the first place.

Mr. LEIGHTON. Oh, no; I am speaking of an entirely new lease for a new property.

Mr. GRAHAM. But you went into it in the first place with entire knowledge of what you were going to take.

Mr. LEIGHTON. There was no duress when I went in, but I am suggesting that there is likely to be duress later.

Mr. GRAHAM. What do you understand by duress?

Mr. LEIGHTON. Duress means force and pressure to induce a person to do a certain thing.

Mr. GRAHAM. Without any element of volition or free will?

Mr. LEIGHTON. There may be some element of volition and free will.

Mr. GRAHAM. Then, you do not understand that it would be unconstitutional?

Mr. LEIGHTON. Oh, I did not say it would be unconstitutional. My point is: Do you want to do it that way, in view of the adjudication of the courts?

Mr. GRAHAM. Now, Mr. Leighton, I am not sure that I understand you correctly as to the cost of horsepower in Norway, Iceland, and France. I believe you said that it was 48 cents per horsepower per year.

Mr. LEIGHTON. For the operation charges at this plant which is to be constructed in Iceland.

Mr. GRAHAM. The thought that I got from your first statement of it was that the thing which cost from $20 to $25 in the United States cost only about 48 cents in Iceland.

Mr. LEIGHTON. I did not make myself plain, I am afraid.

Mr. GRAHAM. Did I understand you correctly?

Mr. LEIGHTON. To the 48 cents on that investment we should add the interest on the investment and other overhead charges; I do not know what that is. I think I specified clearly in my testimony that that 48 cents was for operation, but we can make the comparison between the conditions in the United States and Norway where the cost of horsepower runs from $4 to $8 per horsepower, including all charges.

Mr. GRAHAM. Interest as well as any others?

Mr. LEIGHTON. Yes, sir.

Mr. GRAHAM. And what is it in France?

Mr. LEIGHTON. In France it is, as a rule, somewhat higher, according to my information, though I am not speaking by the book, from $5 to $9 or $10, although there is one case where it cost 37 cents per year for operation. That would be probably about $2.30 for overhead charges.

Mr. GRAHAM. I understood you to say that the loss of the wood-pulp industry to the United States was due to this cheaper water power in other countries?

Mr. LEIGHTON. In some measure.

Mr. GRAHAM. Now, to what extent; can you give us any idea? Is our loss in the wood-pulp manufacturing business due to cheaper power abroad?

Mr. LEIGHTON. Oh, that is a very hard question to answer as to precise figures. I know that the industry has gone abroad

Mr. GRAHAM. What do you know about the supply of timber in the United States adapted to making wood pulp?

Mr. LEIGHTON. Concerning the supply of wood-pulp timber, as I get it from the forestry reports, I understand that there is still remaining a large amount of good wood-pulp timber, especially the soft wood.

Mr. GRAHAM. What varieties?

Mr. LEIGHTON. Such as poplar and bass.

Mr. GRAHAM. Does poplar make good pulp.

Mr. LEIGHTON. Yes, sir.

Mr. GRAHAM. And bass also?

Mr. LEIGHTON. Not so good, but good enough.

Mr. GRAHAM. I suppose you are aware of the effort made some years ago to develop reciprocal relations with Canada in order to get a supply of wood pulp from that country.

Mr. LEIGHTON. And we failed.

Mr. GRAHAM. We failed. What is the best wood for that purpose?

Mr. LEIGHTON. Well, poplar and those quick-growing woods are well adapted for all kinds of paper, and also spruce. Spruce is the wood most used.

Mr. GRAHAM. Is it not true that our supply of spruce has diminished and is now getting quite scarce?

Mr. LEIGHTON. I understand that it is very much diminished.

Mr. GRAHAM. Is not our loss of wood-pulp manufacturing largely due to the fact that the supply of spruce is decreasing?

Mr. LEIGHTON. It is not.

Mr. GRAHAM. To what do you attribute it?

Mr. LEIGHTON. I attribute it to better water power and more businesslike concessions made by Governments abroad, and, finally, to the reduction of the tariff of the United States.

Mr. GRAHAM. The reduction of the tariff ought to bring that rather than keep it away.

Mr. LEIGHTON. Oh, it brings the pulp, but it does not bring the manufacturing business.

Mr. GRAHAM. Well, could you make a comparison between the two cases—that is, between the decrease in the best kind of wood for wood pulp and in the superior opportunities from abroad by reason of cheaper power? Which is the greater cause of the loss?

Mr. LEIGHTON. The superior opportunity is the greater.

Mr. GRAHAM. In what countries?

Mr. LEIGHTON. In Germany, Norway, and Sweden.

Mr. GRAHAM. Where does Germany get her supply of wood for wood pulp?

Mr. LEIGHTON. I have no idea.

Mr. GRAHAM. Not in Germany, I take it.

Mr. LEIGHTON. I am not so sure about that, but I have not those facts.

Mr. GRAHAM. Well, could you give us a more particular description, Mr. Leighton? Could you give us a more particular description of the things included in the trade by "operating cost"?

Mr. LEIGHTON. Operating cost means the salaries of the men engaged, the supplies necessary for the operation; usually there are included petty repairs and sometimes betterments, if they are not too extensive, and generally the things that the plant itself eats up every year in the way of expenses which do not have to be paid out of capital.

Mr. GRAHAM. Does that include anything else than the material in the plant and the machinery?

Mr. LEIGHTON. Sometimes the depreciation is paid out of operation, but that is becoming unpopular. That is an overhead charge, as a rule.

Mr. GRAHAM. Do you know of any concern offering horsepower at $18 per year in this country?

Mr. LEIGHTON. You will have to give me time to figure that out. I will answer that just at the present time I can think of no such company who is selling power at $18 per horsepower per year.

Mr. GRAHAM. My information is that they are offering it at that price in the Puget Sound country. Do you know anything about that, Mr. La Follette?

Mr. LA FOLLETTE. I do not.

Mr. LEIGHTON. That is a detail I have not gone into lately, but I do know of a large company that gets an average of 7½ mills per kilowatt hour. I said in direct testimony that the average cost throughout this country was $20, ranging from $10 to $60.

Mr. RAKER. Mr. Leighton, within the last six years, have you had any personal experience as to the development of hydroelectric power in the public-land States in the West?

Mr. LEIGHTON. I am helping to build one now.

Mr. RAKER. Well, what has been the approximate increase within the last six years on the public domain? Do you know?

Mr. LEIGHTON. As to the rate of increase?

Mr. RAKER. Yes.

Mr. LEIGHTON. I can not say. I know that the increase has been confined largely, if not almost entirely, to those companies already established which have their overhead charges already arranged, which have excellent credit, which have large amounts of property to put behind their bonds, and which are adding water-power sites to the public domain merely from necessity.

Mr. RAKER. Do I understand from that answer that there has been practically but a very small development of the new plants on the land in the public domain within the last five years except those that were previously established?

Mr. LEIGHTON. Very, very small.

Mr. RAKER. Well, could you give the committee any idea why there has been this retarding of development with, say, so many million horsepower that could be developed in the public-land States?

Mr. LEIGHTON. Water powers are built almost always with borrowed money. When you borrow money you have got to give security for it, and you can not give security under a revocable permit. If you have property which you are willing to put under a revocable permit and sustain it with property held in fee you may be able to borrow money. That is what these companies in the West have done.

Mr. RAKER. Then, in other words, is it your statement that because of the revocable permit and the onerous rules and regulations that have been established development has been prevented?

Mr. LEIGHTON. The revocability has been the main cause.

Mr. TAYLOR of Colorado. Has not the question of the rights of way and the difficulty in giving them clearness in the West also had considerable to do with impeding development?

Mr. LEIGHTON. I should say that this is an integral part of the difficulty. I have some figures on the development of forest reserves given to me by Mr. Merrill very recently, but he will give you the facts when he testifies, I suppose. From this list I gather that from the beginning permits covering about 1,400,000 horsepower have been granted and 52 per cent of those permits have been revoked because the people could not go on or did not go on to develop.

Mr. RAKER. Now, right there, on that question of revocation of permits. Do you know why they were revoked?

Mr. LEIGHTON. They did not go on with their construction. Their rights lapsed under this permit because they did not begin at the time they promised to.

Mr. RAKER. Do you know why they did not go on?

Mr. LEIGHTON. I know in some cases, and it is a reasonable presumption in the majority of cases, because they could not raise the money.

Mr. RAKER. Well, for what reason?

Mr. LEIGHTON. Because they could not furnish security for the money they wanted to borrow.

Mr. RAKER. Why could not they get security? What was the controlling element?

Mr. LEIGHTON. The revocability of the permits.

Mr. RAKER. The bankers and others that had the money to lend would not loan it?

Mr. LEIGHTON. They will not look at it. I have a client now who for two years went hat in hand from banker to banker all over the country, and each one said, "Yes; you have a splendid proposition and as soon as you can get a good title I will loan you the money."

Mr. RAKER. Your statement does not correspond with what Mr. Pinchot stated when he said that the policy ought to be continued in the Forestry Service because it has been so successful, and that this bill ought to carry out the Forest Service on the public domain.

Mr. LEIGHTON. I think Mr. Pinchot had in mind merely the permits that had been granted rather than any actual results from the granting of those permits. Now, the condition has been general that we have been promised for four or five or six years a new deal in this water-power business with respect to the tenure, and it is very natural for a man who is wide awake to go out and take out a permit and pay

his license fee, just as you would take an option on a piece of property if you thought it a good investment.

Mr. GRAHAM. Mr. Leighton, in the financing of those enterprises, is it your thought that the lessee should be able to get all the money necessary to finance it in the way of a loan?

Mr. LEIGHTON. Nearly all; yes, sir.

Mr. GRAHAM. You put it on the same basis that street-car franchises and gas-main franchises have gone heretofore in the city? That whoever could go to the city council and get the franchise to lay a street-car line or two tracks in the streets without putting up a dollar of his own money could go to the money lenders and bond his franchise and raise all the money on the bonds and create a property worth millions of dollars without spending a dollar of his own?

Mr. LEIGHTON. Without spending a dollar of his own; no, sir.

Mr. GRAHAM. How much would you have him spend; what per cent of the property?

Mr. LEIGHTON. That would depend entirely on the circumstances. What is the property worth?

Mr. GRAHAM. Your first answer indicated that you would have the matter arranged so that he could get the franchise and then finance it without any money of his own.

Mr. LEIGHTON. Well, of course, I meant that he would have to put up a nominal amount in order to get his options. A man with $50,000 or $60,000 would probably have it all in there before he got ready to borrow the money.

Mr. GRAHAM. Well, do you approve of the old style of building street car systems and building gas and electric light systems in the cities by merely getting the franchise from the municipality and then issuing bonds on that franchise and borrowing money on those bonds and then financing the enterprise and building it up as a great property without any expenditure on the part of the investors?

Mr. LEIGHTON. I think not. Personally, I do not care who spends the money, as long as the public gets the service at a reasonable rate.

Mr. GRAHAM. I have in mind some parties who got a city franchise for gas mains and, without the expenditure of any considerable sum, utilized the franchise to such an extent that they became multi-millionaires out of it. Do you think that is a proper method of doing public business or quasi-public business?

Mr. LEIGHTON. It is very proper so long as the man who does it is not overpaid. That man's time is worth something, and he should be paid for it. If he was made a multi-millionaire by it, it simply goes to show that he was not properly regulated or looked after by those who had given him the franchise.

Mr. GRAHAM. In these water-power franchises, when the Government owns the opportunity, the land adjoining the water which is to develop the power and the land over which the transmission lines would run, and all the circumstances and environments connected with it, is it your thought that this opportunity should be given to some one on such a basis that he could go to the money lender, show him the opportunity he had, and on the mere opportunity, that he should be able to borrow the necessary amount of money to develop the opportunity?

Mr. LEIGHTON. Certainly; before he develops it.

Mr. GRAHAM. Well, that is what I wanted to know.

Mr. RAKER. I did not get a chance to follow out the idea I was working on and I would like to have the opportunity to develop it to-morrow morning if Mr. Leighton could be here.

Mr. GRAHAM. I would rather leave that to Mr. Leighton.

Mr. LEIGHTON. I would be very glad to be here to-morrow morning.

Mr. GRAHAM. Very well, then; you are to come back at 10 o'clock in the morning.

Mr. LEIGHTON. Yes, sir.

(Thereupon at 12 o'clock m. the committee adjourned until to-morrow morning, Tuesday, May 5, 1914, at 10 o'clock.)

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Washington, D. C., Tuesday, May 5, 1914.

The committee assembled at 10.10 a. m.

Present, Representatives Ferris (chairman), Graham, Taylor of Colorado, Raker, Brown, Stout, Church, La Follette, Sinnott, Johnson, and Thompson.

STATEMENT OF MR. M. O. LEIGHTON, WASHINGTON, D. C.—Continued.

Mr. RAKER. Mr. Leighton, what are the steps usually taken in the financing of a water power?

Mr. LEIGHTON. The procedure varies widely, but in general is something like this: The man who finds or discovers a water-power site invests his money, or that which he can borrow from his friends, in securing such options on water rights and lands as may be necessary to give him standing before the community and his fellow men as a possessor of something tangible. He will come to the Secretary of the Interior, or of Agriculture, as the case may be, make his showing, and either receive a permit or be denied. If he receives a permit, or informally is told that he may get one on certain conditions, he will then take all of his facts, evidence, etc., to a banker or some party who is supposed to have money that he can advance for such a project, and if the project is then acceptable to the banker or to any other such person he goes ahead. It is in that way that the man without large capital can get into the power business. It is that very thing which prevents all the business from being locked up among people of enormous means.

Mr. RAKER. That covers the question I think very fully. You stated yesterday that a person who had an established property and who by reason of increased demand, was obliged to add another power site to his system would be under duress as to the acceptance of terms imposed by the Secretary of the Interior in securing a lease for that new site. Will you kindly state briefly just what you meant by that.

Mr. LEIGHTON. A power company gets a lease originally on terms that are presumably satisfactory to it, and begins to serve a certain number of people. After a time, with a growing business, the high-

est capacity of that power site is reached, and then the public-service commission or other authority comes around and says, "You must increase your capacity in order to serve the growing business." A certain measure of duress lies there. Conforming to that order the lessee would go to the Secretary of the Interior, under the terms of this bill, and endeavor to secure a lease for another site which he could tie in with his first site. If the Secretary of the Interior who happens to be in office at that time should refuse to lease him a site except under conditions that the lessee considered unfavorable, he would be obliged to go back to the public-service commission and report the facts, whereat the public-service commission would probably say—would undoubtedly say—"Very well then, we will put a competitor in this market with you, and," colloquially speaking, "bust up your business." Then that lessee would be under duress; or, if you do not like the word "duress," we will say he would be powerfully and acutely persuaded to accept from the Secretary of the Interior a second lease, the terms of which the lessee did not approve.

Mr. RAKER. Is it your idea that those terms might be quite burdensome at times?

Mr. LEIGHTON. They might; it all depends upon the Secretary; under this bill the terms would not be defined in law.

Mr. RAKER. Just one other question on that line. In speaking of burdensome terms, I do not apply that alone, by any means, to the company or the individual, as the case might be, but would it not extend to the community or the patrons receiving the power?

Mr. LEIGHTON. I quite agree with you; there is nothing that can be burdensome to the power company that does not also extend in the same degree to the persons served.

Mr. RAKER. Again, I am assuming, as all the time in this examination, a proper regulation as to the business.

Mr. LEIGHTON. Yes, sir.

Mr. RAKER. I have one other question here I would like to have you comment on to some extent. You stated yesterday that 52 per cent of the power permits issued in the national forests covering plants of 1,000 horsepower capacity or more have been revoked, because the permittees had been unable to proceed with construction, and that the principal cause had been inability to finance under revokable permits. You further stated that the great number of projects which have been financed under such a permit consisted of mere extensions to systems already existing, and that the basis of bond issues in such case was not the property under permit, but that much larger property not involved in the permit, but held in fee. Can you cite any such cases?

Mr. LEIGHTON. I will submit a letter to the chairman covering that entire situation.

The principal uses of our western water powers will be electro chemical, electro-metallurgical, and pumping for irrigation. The majority of foreign water powers can be developed more cheaply than can those in the United States. Labor is cheaper, ocean freight rates are cheap, and we have little or no duty on electro chemicals: therefore this industry can never be established in the United States if a heavy tax is placed upon water-power development. If any

tax is to be imposed, 25 cents or thereabouts to cover administration is enough. Land reclamation by pumping plants operated hydroelectrically would be greatly retarded by the imposition of more than a nominal tax. We can not afford to tax our food products. The idea that water-power sites will be more valuable in the future than now is an economic fallacy, because the regulation of consumer's rates and the confinement of profits to a reasonable return on invested capital will forever hold down the values behind that profit. The value of a thing is determined by what it will return.

Mr. BROWN. Is power developed more cheaply in Europe than in the United States, not alone because of the cheaper labor, but because they have better sites and bigger flow of water?

Mr. LEIGHTON. Yes; in some countries, as in Norway and Sweden, water powers are developed and operated far more cheaply than ours, because of the large water supply combined with favorable topographical conditions. It seems as though those countries are made for water power and little else. There are very few places in this country where we can duplicate the Norway water powers at a like cost, even leaving out of consideration the cost of labor.

Mr. LA FOLLETTE. You have referred briefly to the use of water power for pumping and irrigation purposes; is it your opinion that this will be an important use in the west?

Mr. LEIGHTON. One of the most important uses, sir, practically all of the cheap gravity irrigation propositions have been built. Those gravity plants which will be built in the future will be very expensive on the whole. The great future of irrigation in the West, especially on lands that are underlaid by abundant ground waters, and those very valuable lands that lie above the high line canals of the gravity projects, will depend on hydroelectric pumping.

Mr. LA FOLLETTE. If public revenue is derived from water power, will that revenue be a direct charge on farm production?

Mr. LEIGHTON. Yes, sir; that must be true; it adds by so much to the cost of the water.

STATEMENT OF MR. PHILIP P. WELLS, OF WASHINGTON, D. C.

Mr. WELLS. Gentlemen of the committee, I have for the past seven years given a large part of my time to water-power matters, chiefly in the Government service, and altogether from the public point of view until within the last year, when I have had some private cases. From March, 1907, until the end of January, 1910, I was law officer of the Forest Service, and had charge of all their legal matters and also had administrative charge of their water-power work. From that time until the end of April, 1911, I was counsel of the National Conservation Association, and in their interest was scrutinizing legislation and suggesting legislation on water power.

From the first of May, 1911, until the end of March, 1913, I was in the office of Secretary Fisher as chief law officer of the Reclamation Service, and part of my time was given to the handling of water-power matters for him.

In those ways, I have been in constant touch with water-power men. I have been in negotiation with them as they came to ask for permits. I have scrutinized during those years, I think, every water-power bill in Congress, from the Sixtieth to the Sixty-second, inclu-

sive, both as affecting public lands and as affecting navigable rivers. I make this statement of my experience so as to show what my interest in the matter is.

I want to say a word about the law of this subject. So far as Federal laws are concerned, they are of two sorts—laws concerning the water itself and laws concerning the use of the land. Nobody, so far as I know, in the Government service has been trying to do anything else than give effect to the water laws of the Western States, and I can pass over that branch of the subject and come to the laws which affect the use of the land, because the action that has been taken in this matter from the beginning has been based on the theory that the Government could attach conditions to the use of its land.

I have a list of right of way acts not involving the use of water—that is, acts which give the privilege to various persons and corporations to use the public lands for other purposes than for water—and I also have a list of those statutes which give a right to use public lands in connection with water, and at the close of my remarks I will submit these, if I may, Mr. Chairman, and have them put in the record at this point.

RIGHT OF WAY ACTS. SELECTED LISTS OF ACTS OF CONGRESS GRANTING RIGHT OF WAY OVER LANDS OF THE UNITED STATES, OR AUTHORIZING EXECUTIVE OFFICERS TO GRANT OR PERMIT THE USE OF SUCH RIGHT OF WAY.

I. Right of way for water storage, water conduits, power development, and power transmission:

Act of July 26, 1866, section 9 (14 Stat., 253; Rev. Stat., 2339). For mining, agricultural, and manufacturing purposes.

Act of August 30, 1890 (26 Stat., 391). Reservation to United States over lands thereafter taken up.

Act of March 3, 1891, sections 18–21 (26 Stat., 1101). For irrigation.

Act of January 21, 1895 (28 Stat., 635). Permits for tramroads, canals, and reservoirs on unreserved lands in aid of mining, quarrying, and lumbering.

Act of May 14, 1896 (29 Stat., 120). Permits for generation and transmission of electric power on public lands and national forests.

Act of May 11, 1898, section 2 (30 Stat., 404). For power and other purposes as subsidiary to irrigation.

Act of February 15, 1901 (31 Stat., 790). Permits for irrigation, power, water supply, and miscellaneous electric and hydraulic uses.

Act of February 1, 1905, section 4 (33 Stat., 628). For municipal and mining purposes and the milling and reduction of ores.

Act of February 7, 1905 (33 Stat., 702). Permits for miscellaneous electric and hydraulic uses, Yosemite National Park and Sierra National Forest.

Act of May 1, 1906 (34 Stat., 163). Edison Electric Co. in California.

Act of Mrch 4, 1911 (36 Stat., 1253). Fifty-year easements for power-transmission lines.

II. Right of way for other purposes:

Act of August 4, 1852 (10 Stat., 28). For railroad, macadamized turnpike and plank-road companies chartered within 10 years after the date of the act.

Act of July 26, 1866, section 8 (14 Stat., 253; Rev. Stat., 2477). Highways on unreserved lands.

Act of March 3, 1875 (18 Stat., 482). Railroads on unreserved lands.

Act of March 3, 1899 (30 Stat., 1214). Roads, railroads, and other highways over national forests and reservoir sites.

The CHAIRMAN. We would be very glad to have it.

Mr. WELLS. In general, I may say this about these statutes. The first right of way act in aid of the use of water with which I am acquainted was section 9 of the act of July 26, 1866, now section 2339 of the Revised Statutes, which granted right of way for ditches and

canals for agricultural, mining, and manufacturing purposes. Then there was the act of March 3, 1891, which granted right of way for ditches and canals for irrigation purposes. In 1898 such rights of way granted for irrigation purposes were authorized to be used for power purposes, if the power use was subsidiary to the irrigation use. Until 1896 there was no statute specifically relating to the use of public lands for the development of electrical power. The first statute of that sort was the act of May 14, 1896, which authorized the Secretary of the Interior to permit the use of public lands and reservations for the development and transmission of power. That act has practically been replaced by the act of 1901, which is the one now in force. The act of 1901 is the one that, in its final proviso, makes the permit revocable in the discretion of the Secretary issuing it.

A word as to the decisions and authority of the department under these statutes. In the Forest Service our authority to make any charge for water power or adopt any regulations we wished to adopt was challenged, and the matter was submitted to the Attorney General. He gave an opinion in the fall of 1907, which will be found in the twenty-sixth volume of the Opinions of the Attorney General, at page 421, in which he sustained our authority. Some time later a question arose with the Animas Power Co. in Colorado, which company was in the hands of a receiver. The receiver denied our authority to require a charge, but after some correspondence they followed our suggestion and asked the authority of the Federal judge to sign our contract and pay our charge, and they got an order from the judge to that effect.

Last fall the question came to an issue before the Circuit Court of Appeals for the Eighth Circuit, in the case of the United States *v.* Utah Power & Light Co., which is reported in 209 Federal Reporter, 555. The issue in that case was made up in this way: The company had gone upon lands of the United States and built a power plant without getting any permit or any special authority whatever. They had done that after the passage of the permit act of 1896, but before the passage of the permit act of 1901, and they claimed, when called upon to pay the Forest Service charge and take out a permit, that they had a right of way under the old act of 1866. The Circuit Court of Appeals held that with respect to water-power developments the act of 1866 granting a right of way for ditches and canals was repealed by the permit act of 1896. And in the face of that judgment I do not think it is proper to say, as one of the witnesses here did say, that there is no specific authority of law to make this charge.

With respect to the authority of the Federal Government to attach conditions for the use of its public lands, I think the case of Light *v.* U. S., which was decided by the Supreme Court in May of 1911—I have not the exact volume and page—and also the case of U. S. *v.* Grimaud, which was decided at the same time, is conclusive. These cases arose in the Forest Service, and while I was law officer of the service I took steps to initiate both of them, and in both this doctrine was unequivocally sustained, and I do not think it is any longer open to dispute.

Now, a word as to what was done in the Forest Service, and first I want to say something about attempted legislation from 1907 to date.

I forgot to say that from the year 1907 to the year 1909 I acted as the legal adviser of the power section of the Inland Waterways Commission, which was created by President Roosevelt in the year 1907. In that capacity I scrutinized all legislation affecting power use of navigable streams.

It has been suggested here, perhaps inadvertently, that the Forest Service has desired to maintain the policy that the power permits should be revokable. That is an error. One of the first things I did in the Forest Service was to draft a clause for the agricultural appropriation bill in the first session of the Sixtieth Congress, which in due course was submitted to the Agricultural Committee of the House, slightly changed by them, and put in the bill. That amendment read as follows:

And hereafter permits for power plants within national forests may be made irrevocable, except for breach of condition, for such term not exceeding 50 years, as the Secretary of Agriculture may by regulation prescribe, and land covered by such permits, issued in pursuance of an application filed before entry location, or application subsequently approved under the act of June 11, 1906, shall in perpetuity remain subject to such permits and renewals thereof.

Therefore the program of the Forest Service as established before I entered the service was for a 50-year term, and that has always been so. I will state more about this clause presently.

In the year 1906, as the result of negotiations between Mr. Pinchot and the Edison Electric Co., a Wyoming corporation operating in California, there was passed the act of May 1, 1906, 34 Statutes, 163, which granted to that company the use of certain water-power sites in three of the national forests, and provided that the term for which the use was to extend was to be fixed in advance by the Secretary of the Interior, and that the rental to be paid was to be fixed annually by the Secretary of Agriculture. That had been worked out before I entered the service, and it conclusively shows that Mr. Pinchot and the Forest Service and the Agricultural Department desired not a revocable permit, but a lease for a fixed term. The company finally got a 40-year term under that act, and they receive their notice of what the charge is to be annually, and that charge is fixed in conformity with the general policy of fixing charges under the act of 1901, though they are not under that act.

The CHAIRMAN. You regulate the charges, do you?

Mr. WELLS. That is done every year by notice served upon the company.

Mr. GRAHAM. As a matter of fact are there changes made each year?

Mr. WELLS. So far as the increase of development calls for a change, the charge being based upon the number of kilowatt hours generated during the year. That was commenced when I was in the service, and if I am in error about it since that time I may be corrected.

The water-power companies, after the opinion of the Attorney General adverse to their contentions, had introduced a good many bills granting them the rights that they desired in the national forests and on the public domain. One of those bills was finally chosen as the bill that they would agree upon, and they submitted that bill to the President, who referred it to Mr. Pinchot, and as the result of

that we had extended conferences with the water-power people, in Secretary Garfield's office, in the early part of 1908. There were water-power men present from California and, I think, from other parts of the West. There were representatives of banking interests in New York and Boston, and the conference extended over the great part of a week. They stood for an outright grant, with practically no conditions. Their proposition really was that the United States should take $2.50 an acre and forget it. There was in their proposal nothing like the same control that the Interior Department has over other rights of way, such as is exercised even over right-of-way applications of railroads. Those of us who represented the Government stood for the 50 years' leasing proposition. The conference broke up without any agreement. When this 50 years' leasing proposition came up in the Agriculture appropriation bill, in the clause I had drafted, the gentlemen who were pushing the companies' bill made a point of order against my clause and struck it out. I therefore do not think that the Forest Service or the Interior Department can be charged with the fact that the revocable permit proviso still is in the law.

Bills continued to be introduced in successive sessions of Congress, all of which, as I say, I scrutinized, and those bills were introduced not only with respect to the use of public lands, but with respect to the use of navigable waters. It was suggested here that the conservationists had not been keen about the control of water power in navigable rivers. As a matter of fact, the two things were going along at the same time, and, to a large extent, were going along in my office, because the policy of leasing for the navigable rivers was not advocated by the officers of the War Department, and, in fact, it was opposed by them. It was advocated by the Inland Waterways Commission, and the result was that the scrutiny of these bills was done in my office. Two of the bills were finally vetoed. That began the struggle for water-power control as to navigable waters, so it is the absolute historical fact that this thing, as it bears upon the East and upon the West, was being handled at the same time and in the same place. I will say also that the clauses proposed for inclusion in those grants on navigable rivers in order to bring them in line with the proposed water-power policy were drafted by me during the Sixtieth Congress, though they came to the committees of Congress from the War Department in the usual routine.

In handling this matter in the Forest Service we were continually negotiating with applicants, and the result of that was that the form of our permit was changed from time to time, as we learned more about the subject. I do not believe that the power policy is yet settled to such an extent that you can safely crystallize its details into a statute, and say that the Secretary shall do precisely thus and so, because the day after you do that some emergency will arise where it will be seen you ought to have done a little differently.

Mr. JOHNSON. Could you give an example of what may arise?

Mr. WELLS. Yes. The most obvious example is this, as to whether a particular water resource should be used for irrigation or for power. If you put in this bill a requirement that when a man applies and takes certain formal steps, the Secretary is obliged to issue him a permit, you will thereby allow the first power applicant to take

water that might be needed for irrigation. I will give another instance. It was called to my attention in 1908, for the first time, that many valuable reservoir sites, valuable for power, would be ruined by the location of railroads within their limits. We thereupon took up the policy of considering, every time a railroad location came along in a national forest, whether there was any reservoir site involved that would be ruined by the location. If so, we required a relocation at that place. I mention this as an instance that came up. New questions will continually arise.

Mr. SINNOTT. In that connection I would like to suggest that in the laws of the different States they have the statutory declaration that the rights of water for irrigation purposes shall be paramount to all other uses. Now, how would you reconcile that statutory declaration with the desire of some secretary to use that water for power purposes, and how would you reconcile that Federal and State conflict?

Mr. WELLS. The statutory declaration by the State that the irrigation was to have preference?

Mr. SINNOTT. Yes.

Mr. WELLS. Personally, I would always give irrigation preference.

Mr. SINNOTT. I would like to have your views upon the rights of the Federal Government and the State government in a matter of that kind, or an issue of that kind?

Mr. WELLS. I think the Federal Government has the technical legal power to refuse to let its land be used for irrigation and to use it for power, but as a matter of administration I would always prefer the agricultural use.

Mr. SINNOTT. You use the word "land" advisedly there; you say the use of land?

Mr. WELLS. Yes.

Mr. SINNOTT. You do not say the use of water.

Mr. WELLS. No; I say the use of land.

Mr. GRAHAM. How does its use for power purposes conflict with its use for irrigation purposes? Its use for power does not consume the water.

Mr. SINNOTT. Of course, it is diverted for irrigation purposes, and for power purposes it is frequently not diverted. The irrigation purposes may divert the water from the power site so that it will not be accessible.

Mr. GRAHAM. That is evident, but how would the use for power purposes interfere with its use for irrigation purposes?

Mr. SINNOTT. That is what I said.

Mr. GRAHAM. But you reverse the proposition. You said, how does its use for irrigation interfere with its use for power? That is evident.

Mr. SINNOTT. A man who wants to use it for power purposes may want to take the water down the stream several miles. The man who desires to use it for irrigation purposes may desire to divert it several miles up the stream so that it can not come down to the power site.

Mr. CANTOR. Could it be used for both purposes at the same time?

Mr. JOHNSON. If the irrigation is carried on below the power plant it can. If it is carried on above the power plant it can not, because in irrigation there is consumption.

Mr. CANTOR. That is true, but irrigation does not necessarily consume all the water. The rest of it might be used for power purposes just the same.

Mr. GRAHAM. Is not the true use for power higher up the stream? Then it may be used for irrigation below.

Mr. SINNOTT. Sometimes, and sometimes not; it depends on the topography of the country. You have that very conflict to-day on the Hood River. There is a suit pending with the Hood River irrigation district.

Mr. WELLS. I may say that it is not quite correct that water after it is used for power is available for irrigation, at least water that has been stored for power, for the reason that the power use requires that the stored water be let out so as to maintain a uniform flow throughout the year, which is not the case with the irrigation use.

Mr. CANTOR. Would not that largely depend upon the source of supply?

Mr. WELLS. The irrigation use requires that the water be released during the irrigation season.

Mr. CANTOR. Would not that depend to some extent upon the source of supply?

Mr. WELLS. Yes. I will leave that, however, to some of the Government engineers, who can explain it. There is one point I want to bring out, and that is about the withdrawal of water-power sites. Water-power sites in national forests, with a few exceptions, have never been withdrawn from water-power development, and the Forest Service refused to consent to withdrawals in the year 1910, then proposed by the Interior Department. The water-power sites on the public domain are not withdrawn from water-power development under the regulations now in force in the Interior Department. They are withdrawn from acquisition under other laws and for other purposes than water-power development. That has been the case since the regulations of August 24, 1912.

I want to say a word about this bill with respect to the jurisdiction of the departments. I am very strongly of the opinion that the Forest Service should retain jurisdiction of power sites in national forests, because they have had the necessary experience of administration in this matter; they are fully equipped with engineers and a local field force, and that equipment and that force has to be maintained anyhow; and we will have administrative confusion by having two sets of officers performing functions on the same land; and you will have a waste of money, because the Forest Service officers have to be there, anyhow, and they can perform this function, and are fully competent to perform it.

In the year 1910 I prepared a brief outline of water-power policy for the Conservation Association, and as it is very brief I should like to have it in the record.

The CHAIRMAN. I should be very happy to see it in, and unless some member of the committee objects, it will go in.

(The paper referred to will be found as Exhibit K in the Appendix.)

Mr. WELLS. I see my time has nearly expired, and I only want to say that in my judgment there is not another so important question before Congress, and has not been since I have been in Washington, as this water power question. It is important for many reasons.

The progress of electrical invention has really for the first time given us the use of water power. Here is a great natural resource now for the first time available. It seems to me essential that the public should retain its control, and, of course, exercise that control in a reasonable way. Then it is important, because the manner of use of this power is to convert it into electricity, and when converted into electricity it has certain characteristics, that the engineers can explain better than I can, but the important fact is that the use of electrical energy for the first time gives us power as a commodity. As the use of railroads enable us to get any goods we please at any place we please, so now for the first time power can be had in any quantity we please and at any place we please. Steam power meant concentration of industry. You could not have a steam engine hitched to the weaver's loom in the weaver's cottage. You have to get your looms all in one big building, and take the weaver out of his cottage and put him with a thousand others under discipline and control. With electricity, so far as power is concerned, you can put your looms back into the weaver's cottages, with substantially no sacrifice of efficiency. That means that this reason for concentration has passed away, or will pass away as electricity becomes more and more in use. Moreover, there is a certain advantage in having the power users scattered rather than concentrated, because, as was explained to you by one of the former witnesses, there is what is called the diversity factor. With steam you have to have all your looms going at once to get the best results. With electricity the more diversely they go the better results you get, the more economy of power. It therefore seems to me that those of us who look forward to and believe in an industrial democracy and are trying to attain it, have in this use of electrical energy a great arm on our side, provided the public retains the proper control.

I want to say one thing more, and that is that whatever arrangement is made here should be such that the public can resume these power sites and operate them directly, if at any time that seems the proper policy. It was suggested that that was not a proper policy for the Federal Government, and that the Federal Government could not do it. Of course the Federal Government is doing it. On the reclamation projects of the West we do it to a considerable extent. But I do not suggest that the Federal Government ought generally to do it. I think not. It may very well be that the States or municipalities ought to do it, and the way ought to be left free for them to do it, with such safeguards as will protect the investor in the meantime. In that connection I want to call the attention of the committee to the remarkable development that has gone on in the Province of Ontario, where the Provincial Government buys power in bulk from a plant on the Canadian side of the Niagara Falls and distributes it over its own Government transmission lines throughout the Province as far as the cities opposite Detroit. It brings the power to the boundary of the municipalities and turns it over to the municipalities there, and the municipalities distribute it to the consumers within their boundaries, and I understand that that policy has been very successful. I am so informed by Canadians of intelligence who have seen it and use the power. It has greatly reduced the cost to the consumer of power. Although we do not want to

cross that bridge until we get to it, I think we should see to it that the bridge is not pulled down before we get to it.

Mr. CANTOR. What percentage is lost in transmission?

Mr. WELLS. I can not tell you that. There are engineers here who can inform you about that.

Mr. GRAHAM. The loss has been very greatly reduced?

Mr. WELLS. Very much; yes. There is a transmission line in California, recently built, I think 240 miles long. The Great Falls contract was referred to by Secretary Fisher, where the Great Falls Power Co. of Montana is selling power to the Chicago, Milwaukee & Puget Sound Railroad Co. to electrify 450 miles of line, under a grant from the department, which the department negotiated with the company. It is not proposed, they tell me, to transmit power from one end of that 450-mile line to the other. They are going to have various power sites along the 450 miles that will feed in power at different places.

Mr. CANTOR. On the question of Niagara Falls power, some years ago we felt we could not use so much power, it would not be commercially valuable for distribution.

Mr. WELLS. They are transmitting it in Ontario, I understand, clear through to the other end of the province opposite the city of Detroit. It was explained to me as to this 450 miles of railroad, that if there were a breakdown in one of the power plants, in an emergency the plant at the other end of the line could take care of the whole 450 miles until the break could be repaired.

The CHAIRMAN. I should like to ask you a few questions, and the committee may have some questions. Have you had a chance to look at the bill that has been prepared and amended by Mr. Pierce?

Mr. WELLS. I have not had an opportunity to see that.

The CHAIRMAN. He suggested some amendments here, and has really prepared several bills. They were passed around to the committee, and I think one of them went into the record with the changes indicated that he would like to have in the bill. I wanted to ask you with reference to some of those changes, and if you will take the copy which I hand you and follow me through, I want to get your opinion on some of these changes. You may observe on page 1, that in lieu of "empowered to do certain things and promulgate certain regulations," under Mr. Pierce's suggestion the Secretary would be "directed"; it would be mandatory; would you think that advisable?

Mr. WELLS. I should think that inadvisable, because of a necessity of harmonizing different uses of water, and getting the highest use, and the full-power use.

The CHAIRMAN. You will observe also an interlineation there in the way of printed amendment, the substance of which seems to exclude individuals from taking a lease; would you think that advisable or inadvisable?

Mr. WELLS. It seems to me it would be inadvisable, though I can not speak with full confidence on that point. The reason I think it is inadvisable is this: It seems to me that the electro-chemical industries, for instance, should be allowed to use power of their own.

The CHAIRMAN. At least, in fairness to Mr. Pierce's suggestion, it would be well to observe that he said that if any person were brought within the scope of the rate-fixing bodies and within the

law, he had no objection to it, and would only suggest this on the theory that they were not. But passing from that down, still on page 1, line 9, you will observe that he has stricken out the words "not longer than" 50 years, and inserted in lieu thereof a straight full 50-year term. What would you think of the advisability of that?

Mr. WELLS. I should think that in nearly every case 50 years would be the proper term, but there might be public interests that would require a less term. Let us see what they would be. It might be that there would be a temporary demand for power that might justify a small temporary power development. I should think it would be inadvisable to require a 50-year term, though in 99 per cent of the cases that would be the proper term.

The CHAIRMAN. As the bill originally stood it provided a maximum of 50 years and empowered the Secretary to lease for a shorter period, and as a further suggestion of Mr. Pierce it would be mandatory upon him to lease it for a 50-year term, under the first amendment.

Mr. GRAHAM. At that point, Mr. Chairman, in nearly every case of legislating the legislators have to choose between at least two difficulties. One was very much emphasized yesterday by Mr. Leighton, the difficulty of financing. The other one is pointed out now by Mr. Wells. Which of them would you consider the greater one? If you make it, as suggested here, not longer than 50 years, according to Mr. Leighton you interfere serious with the ability to finance the enterprise; and, on the other hand, if you make it straight 50 years you say that it might interfere with other things which might arise in the meantime.

Could you weigh those difficulties for us to suggest which one, in your judgment, is greater?

Mr. WELLS. It does not seem to me that the difficulty in financing would exist if the permittee, the lessee, had certainty about the matter. It does not make any difference to him whether he gets his certainty from this bill or whether he gets it from the Secretary of the Interior. If he knows before he starts to put in any money that in that particular case he is going to get 50 years, that is all that he needs to know in order to finance the proposition.

Mr. GRAHAM. The difficulty is not in him; it is in those from whom he would borrow, to develop the interprise.

Mr. WELLS. I do not think the lender, if he is assured that that permittee is going to get 50 years, an indefeasible right for that time, is going to pay any attention to whether he gets it by the words of the statute or whether he gets it by the words of the lease.

The CHAIRMAN. May we now direct your attention to section 2, page 2, of the proposed bill. You will observe in section 2 the framers of the bill thought it the part of wisdom to put a provision in that bill that not greater than 50 per cent of the output of electricity produced should be sold to any one individual. What would you say, that that is or is not a wise provision?

Mr. WELLS. I am inclined to think that, as it reads here, it is a vise provision.

The CHAIRMAN. Of course it is not mandatory on the part of the Secretary to do that; but he may, within his discretion, provide that not to exceed 50 per cent can be sold.

Mr. WELLS. Yes; supposing in the case of the electro-chemical industry, he could let them take a hundred per cent, if they would; but, on the other hand, in a community where there was a keen demand for power for some essential purpose by a great number of individuals, it might be good policy to insist upon no greater than 50 per cent.

The CHAIRMAN. May I ask you if, in your experience as law officer of the different departments in which you have served, and the experience which you have had—which has been quite a wide one, I may say—you can think of a case where irrigation might suffer not to have such provision in the law?

Mr. WELLS. I can not answer that question, Mr. Chairman, because as these matters have come before me, the fact that power was to be used for irrigation is very frequently shown, but as to whether 51 per cent or 49 per cent would go to some other use, I have not had the opportunity to observe.

The CHAIRMAN. Passing now over to page 3, and directing your attention to section 4, about the middle of the page, you will observe there, as the suggested amendment there appears, permission to the lessee to mortgage the premises in order to finance his business. I would ask you, first, if you thought that was advisable, and if you so think, is that properly safeguarded under the suggestion of Mr. Pierce, to keep them from mortgaging to a company who might in fact be the real party in interest, and might amount to a consolidation of substantial and all sorts of interests.

Mr. WELLS. I think there is a necessity to mortgage.

The CHAIRMAN. Unquestionably.

Mr. WELLS. As the bill is originally drawn, that necessity would be met by the lessees going to the Secretary of the Interior for his consent to the mortgage. I think that might be some obstacle to borrowing. I do not think it as serious an obstacle as some of the other gentlemen here have thought. Coming to this amendment, I am inclined to think that some such amendment should be made.

Mr. CANTOR. What is the practice now, Mr. Wells, about issuing mortgages upon which bonds are sold, on these plants?

Mr. WELLS. I have not been in touch with that directly, and can not tell you. I know of one or two cases where the permittees have issued bonds, but just when they issued them and how that issue was affected by the new policy I can not tell you, but there is presented a necessity for issuing bonds in nearly every case. At first blush that language seems to me pretty satisfactory, Mr. Chairman.

With respect to consolidation, I think we are bound to have consolidation of water power. I do not think you can stop the consolidation of water power any more than you could stop the consolidation of railroads in the past. It is something like the time when they had 10 railroads, I think, between New York and Buffalo; they were bound to be connected into one system. And there is bound to be a great consolidation of water power. It is going on now for similar reasons, and it is bound to go on.

Mr. GRAHAM. The question really is whether that consolidation should go on under the supervision of the Secretary of the Interior or whether it should go on on purely commercial and personal lines.

Mr. WELLS. The consolidation ought to go on under public supervision and control. I note the language of this amendment is that a

mortgagee must be to a transferee not having the capacity of lessee as defined in the bill. I am aware of methods that could be adopted to have a lot of lessees mortgage to the same man, who did not have the capacity of a lessee, and you would have a consolidation in that manner.

The CHAIRMAN. That might or might not be desirable.

Mr. WELLS. It would be desirable if it were properly controlled, and would be very undesirable if it were improperly controlled.

The CHAIRMAN. If power were given by carte blanche legislation to so mortgage and so consolidate, there would be no place left for regulation or control, would there?

Mr. WELLS. Oh, yes; you would have full control over your lessee, according to the terms you put in his lease, and the fact that he handed the lease over to a banker who held a lot of other leases would not free him from the control that you would put into the lease.

The CHAIRMAN. As to detail that is true, but as to consolidation it would not be true.

Mr. WELLS. Under consolidation it would not be, but, for that matter, Mr. Chairman, they can consolidate in spite of what you have put in this bill, by the very simple process of some man buying the stocks of the separate companies.

The CHAIRMAN. We sought to reach that in some of our coal-leasing legislation; I do not know whether we did it or not. We sought to do so. There was an attempt of that sort in the Alaska coal bill a few years ago, but it makes a very drastic regulation.

Mr. GRAHAM. It is easier to attempt it than to do it.

The CHAIRMAN. Passing now to section 5, and I may pause long enough to say that this is undoubtedly the most important part of the entire bill, that is a provision which provides for recapture of the property. Now, you have given some attention to that, I take it, Mr. Wells?

Mr. WELLS. Yes.

The CHAIRMAN. Without becoming argumentative, I want to say that we have to remember here two things. First, we must not make the section so onerous and so restrictive that it will scare people off; we might pass a bill that would never bring operation. On the other hand, we will have to beware, and beware to a very marked extent, that we do not make the conditions so onerous on the other side that we never can recapture the property, if we give what purports on its face to be a lease, but what amounts to a grant in perpetuity. I would like to have your views on section 5, with reference to the suggestion made there.

Mr. GRAHAM. I suggest, Mr. Chairman, that you read the section. It is not long, and we can start the matter that way, and we can follow you.

The CHAIRMAN. Section 5 reads:

That after not less than three years' notice, the United States shall have the right at any time, from and after 50 years from the date of any lease issued hereunder, to take over the' properties which are dependent, in whole or in part, for their usefulness on the continuance of the lease herein provided for, which may be acquired by any lessee acting under the provisions of this act, upon condition that it shall pay, before taking possession, first, the actual cost of right of way, water right, lands, and interests—

Let me pause here for a moment and suggest that Mr. Pierce suggests striking out the word " first " and the words " actual cost " and inserting in lieu thereof " fair value "—

therein purchased and used by the lessee in the generation and distribution of electrical energy under the lease, and, second, a reasonable valuation of all property taken over—

Mr. Pierce would strike out " second, the reasonable valuation," inserting in lieu thereof " the fair value." Reading on in line 3—

including structures and fixtures acquired, erected, or placed upon the lands and included in the generation or distribution plant, and which are dependent as hereinabove set forth, such reasonable values—

as we have it, and " fair " as Mr. Pierce suggests—

values to be determined by mutual agreement between the Secretary of the Interior and the lessees, and, in case they can not agree, by proceedings instituted in the United States Circuit Court for that purpose: *Provided*, That such reasonable—

as we have it, or " fair " as Mr. Pierce puts it—

valuation shall not include or be affected by the value of the franchise or good will or any other intangible element.

Mr. Pierce would add an additional proviso:

Provided further, That if at the expiration of any lease period the properties shall not be taken over as herein provided, the lease covering said properties shall continue until the right of taking over the properties herein provided shall have been exercised.

What is your impression of that as we have it and as amended by the suggestion of Mr. Pierce?

Mr. WELLS. I would, in line 23, on page 3, where it now reads, " That it shall pay, before taking possession, first, the actual cost of rights of way, water rights, lands, and interest therein," etc., in which clause Mr. Pierce would substitute " fair value," I would say, " The actual cost, not exceeding the fair value." The point there is this, whether the unearned increment in land should go to the company who happens to hold that land at the end of the 50 years, or whether that company should be restricted to reasonable and generous profit on what it put in there in good faith and with common sense, and I answer that they should not get the unearned increment in natural resources.

The CHAIRMAN. Your amendment, of course, goes a little further than the other. In event of depreciation you would not pay them, even though it cost more than it was worth in the end, whereas Mr. Pierce would have us pay what the original cost was plus the unearned increment; or, in event of depreciation, of course it would work the other way.

Mr. WELLS. I do not think that we can look forward in many cases to depreciation, though there would be some cases perhaps. What I had in mind was not so much to safeguard the matter of depreciation; I did not have in view depreciation so much as collusion as to costs. Railroads have been loaded up with some very heavy construction costs that were collusive, and I do not think these enterprises ought to be loaded up with any collusive construction costs.

The CHAIRMAN. Your position, then, is that the Federal Government's right to recover should not be encumbered with paying more

than the actual cost of installation less depreciation, if any there be, and you would think, then, as I take it, it would be unwise to put in a provision binding the Federal Government in event of retaking to pay the fair valuation?

Mr. WELLS. Yes.

Mr. RAKER. That only applies to the rights of way, does it not; this does not apply to the machinery plants, does it?

The CHAIRMAN. It applies to the whole thing, yes; that the lessee sells the other party, on the theory that the entire plant as an entity would be necessary, either to take over or allow it to remain.

Mr. THOMSON. This applies, does it, to property that the lessee may have acquired from private interests?

The CHAIRMAN. It does, on the theory again that it might be important to the lessee as well as to the Government. The Government would scarcely want a part of the property and leave worthless what was left behind, thus working a hardship on the lessee. On the other hand, the lessee of course would want the entire plant or nothing. I think that is wise.

Mr. THOMSON. Mr. Wells's theory, as I get the situation, is that the bill provides in taking this over from the lessee, the Government pays the lessee——

The CHAIRMAN. The actual cost.

Mr. WELLS. The actual cost, not to exceed the fair value.

The CHAIRMAN. That was added. Of course the suggestion of Mr. Pierce was irrespective of first cost, we pay the fair value of the plant at the time it was recaptured or taken over.

Mr. TAYLOR of Colorado. Of course they do not pay the Government for the right of way, but the Government is instrumental in permitting them to acquire some things. Should the Government, on matters that are entirely foreign, 20 miles away or 200 miles away, as they are in Colorado, have all of the benefit of the growth of the value of that property in 50 years, and make the man surrender it for nothing?

The CHAIRMAN. One answer to that, Mr. Taylor, is this: I lease a 160-acre farm for 10 years at $500 a year. The community grows, the city near the farm land grows, and the value grows, and the farm that I leased you 10 years ago for $500 a year becomes then worth $5,000 by reason of the growth of the community. Now, should the lessee have the farm returned to him and get the $20,000 or have merely the $5,000 returned?

Mr. THOMSON. That is not quite the case here. Suppose you lease a particular farm of 160 acres, the lessee has to use it for certain purposes.

The CHAIRMAN. For farming.

Mr. THOMSON. Yes; and there is a provision whereby you take that back at the end of the lease period.

The CHAIRMAN. You do not take it back at all; it is with you all the time, and so is this with us all the time.

Mr. THOMSON. Quite so, but this includes the adjoining farm of 160 acres.

The CHAIRMAN. It seems to me it would not make any difference. he requires another 160 acres here, private interest; it is all used as one plant. Now, as was stated a moment ago, if it is going to be

worth anything to the Government, the Government takes it all, and what is to be the basis of compensation for the 160 acres acquired from private interests?

To the extent of the farm land being 160, an entity, and the power company being an entity, the example is a correct one, but the introduction of another farm, which is another entity, and not an integral part of the original entity, the original 160 acres, makes it not a parallel case. In the one case the farm is an entity of itself, and the other part suggested, another farm, is no part of the entity at all; it is an entirely independent transaction, just as much as if you took a foreign commodity altogether.

Mr. THOMSON. May I ask a question right there, to clear up my own mind on this proposition? Is it not a fact that these power companies who take these power sites under lease from the Government, in many cases not only are going to, but must necessarily acquire some additional property?

The CHAIRMAN. In nearly every case.

Mr. THOMSON. In addition to what they get from the Government?

The CHAIRMAN. In nearly every case.

Mr. THOMSON. Then would you think when the Government takes over the proposition at the end of the 50-year period it is necessary to take over not only the property directly leased from the Government, but also other property the company may acquire?

The CHAIRMAN. They do and they must, and it is important to the lessee as well as to the Government. It is either all valuable, or none is valuable. You could not take over part and leave the rest.

Mr. THOMSON. But I understand that the bill provides a certain basis for valuation which is applicable both to the property leased from the Government and the property the company may have acquired otherwise.

The CHAIRMAN. The bill as it stands provides that upon expiration of the lease period the entire entity, that leased from the Government and that acquired from other sources, shall be subject to recapture, subject to taking over by the Government, whether it emanates from the Government or from any other independent source, and for the actual cash value. Mr. Pierce introduced a suggestion——

Mr. THOMSON. At the actual cash value, or actual cost?

The CHAIRMAN. Actual cost.

Mr. THOMSON. You said actual cash value.

The CHAIRMAN. Actual cost.

Mr. THOMSON. Does that apply both to the property leased, and——

The CHAIRMAN. As to any other, whatever it may be.

Mr. TAYLOR of Colorado. What I want to ask Mr. Wells——

The CHAIRMAN. Let me get through with the witness first.

Mr. TAYLOR of Colorado. All right.

The CHAIRMAN. Then we will pass on to the other.

Mr. WELLS. May I inject a word? In this outline of policy, which I have asked to have inserted in the record, you will observe that I regard the transaction of carrying on a power proposition as a bargain between the public and the company, and in that matter I am not distinguishing who represents the public, whether it is the Federal

Government or the State government; in either case it is a bargain with the public. Now, that company can not conduct its business as a private enterprise; they have got to go to the sovereign power to get help.

Mr. GRAHAM. They have to exercise the right of eminent domain.

Mr. WELLS. They have to exercise the right of eminent domain, and they have to get water rights from the State, and they have to get the use of public lands from the Federal Government. I think the principles which govern the one sovereign power are precisely the same as those which should govern the other; there is no conflict. They should not make a bargain except upon fair terms, and the fact that the Government owns 1 acre or 1,000 acres or 5,000 acres is not the point. The point is that they have to go to the sovereign power to get help.

The CHAIRMAN. And passing from that provision down to line 22, page 4, you will observe at the end of the proviso, which, in substance, is granting to the original lessee a preference right to again re-lease the property.

Mr. WELLS. I think that the right of the public, whether State or municipality, or whatever it may be, to take over should be paramount. As between private lessees, I think it is entirely proper to give the old lessee the preference right of renewal on conditions then to be fixed.

The CHAIRMAN. Passing from that over to page 5, you will observe, in lines 3 and 4, that there are stricken out, by Mr. Pierce's suggestion, "where, in the judgment of the Secretary of the Interior, the public interest requires or justifies the execution by any lessee of;" would you think it advisable to strike that out?

Mr. WELLS. I should leave it in, Mr. Chairman. Contracts might be entered into that would be very embarrassing.

The CHAIRMAN. Omitting that next typewritten amendment, which I do not think is very important at this time, and passing to the amendment that occurs in line 16, page 5, that strikes at the question of an annual charge. You will observe that Mr. Pierce suggests that the one charge be fixed by the Secretary, which shall be equivalent to 5 per cent of the fair market value of the lands, which value shall be determined by the Secretary and agreed to by the lessee at the time of granting the lease provided for. I want to ask you if you think that would be adequate compensation?

Mr. WELLS. It might or might not be. In some cases it might be adequate; in other cases it would not be adequate.

The CHAIRMAN. That is not in all the copies, and I think perhaps Mr. Pierce has abandoned that.

Mr. RAKER. I do not find it in mine.

The CHAIRMAN. Mr. Pierce tells me he does not urge that as a part of the bill. Passing to page 6, there is a provision after line 11 which authorizes the district court to settle it where the lessee and the lessor can not agree.

Mr. WELLS. That is not included in this copy.

The CHAIRMAN. We will pass that if you have not it before you. Pass now to the end of the bill, and I call your attention to section 14, which is the repealing clause. Do you or do you not think it advisable to repeal the laws in conflict with this? We were told the other day by Secretary Fisher that about the only thing left that

was of value at all was the 1901 revocable permit act, and he was not of the opinion that it was of extreme value. What is your opinion?

Mr. WELLS. As I interpret this bill in reading it, I think that inasmuch as the bill will not apply to States having no public service commissions, the act of 1901 would still be in force in such States. I should think that that ought to be so. With respect to repeal, I think all statutes authorizing the use of public land of the United States for power development or distribution to which land this act applies should be repealed.

The CHAIRMAN. Of course, if we left the repealing clause in, it would not affect vested rights under the revocable permit act, would it?

Mr. WELLS. No.

The CHAIRMAN. Only in event the Secretary has to revoke it, the right which he now has, would this law become applicable; that is correct, is it not?

Mr. WELLS. Yes.

The CHAIRMAN. Now, one word and I am through. As a lawyer, and, based upon experience you have had, do you think there is any doubt whatever as to the ability and the power and the constitutional power of the Federal Government to fix conditions for the use of land that belongs to the Federal Government?

Mr. WELLS. None whatever, in my judgment.

The CHAIRMAN. The other questions become matters of detail and policy, as to how far you go, isn't that about it?

Mr. WELLS. That is the way I regard it. May I add a word with respect to repeal?

The CHAIRMAN. Certainly.

Mr. WELLS. One of the most embarrassing acts that the departments have to administer is the act of 1898, which authorizes the use of easements granted only for irrigation for the additional subsiduary purpose of power development. That certainly should be repealed. I will instance one case of the use that has been made of that act. A company in California, which I think is called the Kern River Co., got an irrigation easement many years ago—I do not know how many, 10 or more. It does not use one drop of water for irrigation. I have been over the plant, and every drop of water is turned back into the river after it passes through the water wheels, to satisfy prior irrigation rights below. Some of the power that it develops is sold to people who do pump some water with it for irrigation. The departments have regarded that as a violation of the conditions of the easement.

In March, 1908, after an extensive examination in the field, I started a letter, which I think went from the Agricultural Department to the Interior Department, requesting that suit be brought against that company to cancel their easement for misuse, and require them to come under the permit act of 1901. The Interior Department referred the matter to the Department of Justice; and so far as I know no suit has yet been brought. The Interior Department and the Forest Service are continually up against the problem of a man who is asking for an irrigation easement under the act of 1891 with subsidiary power use under the act of 1898, and the Interior Department has to stop and scrutinize the matter and make

up its mind whether he is trying to beat the Government or not. That is a very unfortunate situation. It hampers some genuine irrigation development. Because some men who have obtained those easements have behaved badly, it gives them all a black eye, and it would be to the advantage of irrigation development in the West to repeal the act of 1898, which makes the abuse possible.

Mr. GRAHAM. Does not a later act by necessary implication repeal all former acts in conflict with it, whether the law specifically so says or not?

Mr. WELLS. Yes—I must answer that question yes.

Mr. GRAHAM. What does that section 14 add to the bill as it stands?

Mr. WELLS. I am proposing to define what inconsistency is by saying that all acts authorizing use of lands of the United States for the generation and distribution of electric power are hereby repealed.

Mr. GRAHAM. But if you leave that clause in, I say that if it repeals all acts inconsistent with it, the fact remains still to be ascertained whether a certain act is inconsistent with it, and if that were not in and the earlier act was found to be inconsistent with it, it repeals it whether it says so or not. The implication is a necessary one that the last expression of the legislature is the law?

Mr. WELLS. Absolutely.

Mr. GRAHAM. And that everything in conflict with it goes out?

Mr. WELLS. Absolutely. But the question that remains in the departments, and possibly in the courts, would be whether the act of 1898 authorizing the use of these easements for power development as subsidiary to irrigation is inconsistent with this or not.

Mr. GRAHAM. That fact would remain to be determined later on in either event?

Mr. WELLS. Not if the language that I have in mind were put in.

Mr. BROWN. Mr. Wells, if the companies holding revocable permits under the law of 1901 were given an opportunity to come in under the provisions of this act, do you think many of them would avail themselves of it?

Mr. WELLS. My impression is that they would.

Mr. BROWN. Do you think they ought to be given that opportunity to come in?

Mr. WELLS. Yes, I should think so, if I understand your question. Does your question go to whether the State has a public-service commission or not?

Mr. BROWN. I mean entirely regardless of anything of that sort. Now, they have a revocable permit, should that be made for a term of 50 years or 40 years, or whatever it may be, if they so desire?

Mr. WELLS. I should think they would come in.

Mr. BROWN. And get permits?

Mr. WELLS. And get permits.

Mr. BROWN. On page 5, which you were discussing a moment ago, as I understand it, irrigation projects which are being developed naturally carry with them the use of water that goes on the land in perpetuity, otherwise nobody will go on the land unless they have assurance they are going to get the water in perpetuity, is that correct?

Mr. WELLS. That is the general rule throughout the West; it is not universal.

Mr. BROWN. If there be a perpetual right, for example, to pump the water on the land, would it not be not so much to force such company to get permission from the supervising body, whether public-service commission or the Secretary of the Interior, to make a contract in perpetuity to pump the water on the land which is bought only if water can be put on it in perpetuity—do I make myself clear?

Mr. WELLS. I do not quite get your point.

Mr. BROWN. As I understand it, there are some irrigation projects where land is sold and developed for agricultural purposes only where there is assurance of water being on that land in perpetuity?

Mr. WELLS. Yes.

Mr. BROWN. Now, in some of those projects the water does not fall on those lands by gravity, but has to be pumped. That would imply somebody would have to get a right in perpetuity to pump the water on the land which is bought, with the understanding that the water would be there. Would, therefore, this provision requiring the pumping person to get the permission in perpetuity, would that be a hardship on him if what he wanted to do was to pump that?

Mr. WELLS. No.

Mr. BROWN. Or would it be possible to get that permission from either the Secretary of the Interior or from the supervisory power?

Mr. WELLS. If he has to pump water for irrigation and nothing else, it would be desirable that the right to pump should be a perpetual right. That can be achieved under the irrigation act of 1891, where an irrigation district itself wishes to erect a power plant to pump water for its members, for the owners of the land in the district, and they get an easement under the act of 1891. They get a perpetual easement. That is, where they are clearly using it as subsidiary to the irrigation. I do not know whether that answers your question or not.

Mr. BROWN. Not quite. Would this bill, if passed, repeal the act of 1891 with regard to perpetual leasing for power purposes?

Mr. WELLS. The bill now might not. May I say that what is perpetual with respect to irrigation is the individual's right to the use of water on his land. Of course, it is essential that there be some method of getting it there. That is the matter in your mind.

Mr. BROWN. What really I was after is this: From your knowledge of the point of view of public officials, would it be a hardship to require an irrigation company to make a case before the regulatory bodies and get permission?

Mr. WELLS. I do not think they would have any difficulty whatever. There has been no disposition on the part of anybody to do anything but help irrigation, in my experience.

Mr. BROWN. Then that answers my question now. In the matter of provisions of operation and so on, as applied to Alaska, are they sufficiently liberal in this bill to induce anybody to go up there for electrochemical purposes?

Mr. WELLS. It would seem to me that there is nothing restrictive in the bill that would prevent the investment of capital. It would all depend upon the conditions that you put in the lease.

Mr. BROWN. In other bills we have made a special exception with regard to Alaska, on account of the difficulty of getting anybody to go in there and the time it takes to get an enterprise under way.

Mr. WELLS. I do not think that you would have to waive anything that the Secretary of the Interior is required to do by this bill. I think it would be up to the Secretary of the Interior to make the conditions of his lease such as would apply to Alaska.

Mr. BROWN. One more question and I am through. On page 1 of the bill, you and others have spoken of the apparent conflict which the provisions of this bill would make between the Secretary of the Interior and the Secretary of Agriculture, where the forest reserve contained the water powers. Would it not be possible to obviate that difficulty by adding something to the effect that the Secretary of the Interior, in cooperation with the Secretary of Agriculture, have supervisory jurisdiction, or something of that sort, so that in forest-reserve matters the Secretary of the Interior would have the advice of the Secretary of Agriculture, but the jurisdiction of all the water powers would be under one head?

Mr. WELLS. That is a question of personnel of the administration. If use were made of the forest officers—engineers now on the ground—there would be avoided duplication of cost.

Mr. BROWN. The presumption is he would be working, in a measure, in cooperation with the Secretary of Agriculture.

Mr. WELLS. We attempted cooperation with the Department of the Interior in several matters in the year 1907 and 1908, and some of them resulted in friction, and we finally abandoned them. There is no sound reason why there should not be full cooperation. May I say that the principle of the Lever bill, in the last Congress, in this respect, seems to be the sound one, and that is, that the department that has custody and control of the land should have the actual administrative power on the land, but that the departments should cooperate, as a sort of commission, to determine the general policies that would apply to all lands.

Mr. CHURCH. Do you think that there is any danger to Alaska by the passage of this bill; that it will interfere with the present conditions that exist under the revocable-permit bill? Would it interfere with the conditions that exist?

Mr. Cleary spoke the other day in reference to apprehension on his part that it might interfere with fixed conditions under the present law.

Mr. WELLS. Mr. Cleary's point is this, as I understand it: His company has a permit in one of the small national parks in California. National parks are excluded from the operation of this bill. Now, the repealing clause wipes out the act of 1901 with respect to California, which has a public-service commission, and then there would be no law under which he could get a permit for an extension of his works on the land upon which he is operating. I think the point is a good one. I think the act of 1901 should remain in force as to all lands of the United States not within the scope of this bill.

Mr. CHURCH. There has been a great deal of talk about fear of consolidation, etc. What is the danger of consolidation as long as the plants are regulated by utility commissions within the States? In other words, why is not consolidation an advantage?

Mr. WELLS. Consolidation is an advantage if it is properly regulated. It has very great advantages. If there is a breakdown of one generating plant, the other generating plants can take it up. If

there is a variation in the stream flow, so that the high water comes at one place when there is a deficiency at another plant, it is an advantage to have the consolidation. There are undoubted advantages provided there is proper regulation.

Mr. CHURCH. For the benefit of the public—and that is what we are legislating for—would it not really be an advantage if the electrical power of the State or the district—we will say of a State—be owned by one system, by one corporation?

Mr. WELLS. I think that it would be an advantage within the area determined by the radius of efficient electrical transmission to have all generating plants tied in together, provided there is proper regulation.

Mr. CHURCH. And for the benefit of the public you think one permittee should control the electricity of a certain district—certain area?

Mr. WELLS. Yes.

Mr. CHURCH. As long as it is regulated by the utilities commission?

Mr. WELLS. I think that is inevitable, and that is what is coming about now. The consolidation is going right on under our eyes, and it is bound to go on further, and it is up to the public to see that it is properly regulated.

Mr. CHURCH. What is your idea about the charge that the Government should receive for the horsepower? Do you think it should be nominal, or should they try to make something out of it?

Mr. WELLS. I think the Government should not regard this as a source of revenue, by which I do not mean that under no circumstances should they make a charge. For the reasons explained to you by Mr. Fisher and mentioned by Mr. Pinchot, and stated at length in the report of the Commissioner of Corporations, there should be sometimes a substantial charge. In no other way can the public get a fair deal from the company, except in the form of a rental charge, under some circumstances. Under other circumstances they may properly pay no charge at all. For instance, if a municipality were going to develop power and serve its own citizens with that power, so that the benefit of it got to the ultimate consumer, I, for one, would not charge a cent of rental on it, because there is a case where the benefit is given to the men we are trying to help.

Mr. CHURCH. The utility commission of course will take into consideration the cost of producing the electricity, will it not, in estimating the price to the consumer, and in doing so will they not estimate all costs, regardless of whether it is a cost to the Government or whether it is a cost for power house, or whether it is a cost for copper wires, all costs, in other words, of the Federal Government or the State, to private individuals will be taken into consideration and fixed in a basis upon which the charge to the consumer should be made?

Mr. WELLS. I should think that cost would so be taken into consideration by an efficient commission, but, unfortunately, the commission in many cases will be forced to take some other things into consideration. They will be forced to take into consideration, perhaps, the unearned increment we were talking about a while ago. If a company has acquired a valuable power site, or a part of a valuable power site, at a mere song, and the development of the community makes that thing of very great value, it is highly probable

that the courts would require the public-service commission to allow the company to earn a fair return not upon what they paid for it, but upon the great value that has been added by the general development of the community.

Mr. CHURCH. That may be true, but they will also make them take into consideration the amount which it has actually paid as well.

Mr. WELLS. They should, yes.

Mr. CHURCH. Therefore any expense that the power company is put to, whether it is the Government or any other party, will be taken into consideration in the fixing of rates, will it not, and therefore——

Mr. CHURCH. And therefore will bear more or less upon the price to the consumer.

Mr. WELLS. If I get the drift of your question, it is that whatever the Government charges comes out of the consumer?

Mr. CHURCH. That is it.

Mr. WELLS. In some cases, yes; in other cases, no.

Mr. CHURCH. I wish you would explain what cases no. I can not get that philosophy at all.

Mr. WELLS. If you have two concerns, let us suppose that two different water-power companies are competing in the same market. I am not an engineer, and no importance should be attached to the figures I use, but, for example, suppose that it cost $200 per horsepower to develop one, and it cost $300 per horsepower to develop the other. Now, when the commission comes to regulate the price of electricity in that community it has to regulate it on the basis of a $300 cost, because otherwise it would confiscate something upon which the $300 company had a right to earn a return. It follows——

Mr. CHURCH. May I ask you right there, will you base it upon the $300 cost; will not that $300 cost also be based upon the amount that is paid to the Government for that permit?

Mr. WELLS. Possibly, yes.

Mr. BROWN. Assume that they pay nothing.

Mr. WELLS. I will assume that the $300 man does not pay anything, the Government has not charged him anything. Suppose, however, that the Government leased a site to a man where it would only cost $200 per horsepower to develop. Now it is perfectly evident that under those circumstances the only way the public can get for itself the advantage of that other site is to make a rental which will handicap the $200 site to a level with the $300 site.

Mr. RAKER. Is there any case on record in any court of the United States that the courts have or the public utilities commissions have thus fixed the rate?

Mr. WELLS. I do not understand you.

Mr. RAKER. You say here one case, $200 horsepower and another one $300, that the public utilities commission would then have to fix the rate according to the $300 horsepower?

Mr. WELLS. It could not do otherwise.

Mr. RAKER. Has it ever done such a thing, if we understand each other?

Mr. WELLS. Every time any public-service commission or court passes upon it, they do put it upon that basis. Possibly we do not understand each other.

Mr. RAKER. We certainly must be far apart. May I ask just one question there?

Mr. CHURCH. That was all I wanted to ask.

Mr. RAKER. Will two concerns furnish power to the same town at $200 for one and $300 for the other——

Mr. WELLS. To develop the power.

Mr. RAKER. Separate and distinct——

Mr. WELLS. To develop the power.

Mr. RAKER. Separate and distinct interests, separate and distinct corporations, the public-utilities commission fixes the rate to be used by both according to the high rate of $300 for horsepower.

Mr. WELLS. Judge, let me answer that question at a little length. The public-service commission's duty is to see that in this town power service of a certain kind, depending upon the use, shall not exceed so many dollars a horsepower year, or so many cents a kilowatt hour. Now, what the public-service commission is doing is pressing down that price to a fair level. As soon as it has pressed it down to the point where the man who has the expensive site can make a fair return and no more, they have to stop, because immediately they press it below that point, the $300 man would take them into court and break their regulation.

Mr. RAKER. Well, I know, but going a little farther, is there any case on record in any State that if one company can furnish a horsepower to a community say at $200 per horsepower——

Mr. WELLS. I did not say that.

Mr. RAKER. I just assume that—and the other one at $300, that the commission would raise the rate so that the $300 company would make a profit?

Mr. WELLS. I see the point of your question. You suppose that the cheapest development site is going into the community and offering it at a cheap price?

Mr. RAKER. Yes; and can make a profit on it.

Mr. WELLS. Of course, no commission will raise a price that competition affords, but the fact is that the man with the $200-site will depress his price low enough to get business for his plant, and no lower.

Mr. CHURCH. I understand that the departments require as a prerequisite to granting rights of way and easements for the use of power plants, that the applicant shall secure the right to use and appropriate the water from the particular State?

Mr. WELLS. Under the State laws.

Mr. CHURCH. Under the State law. Why is that done; and in that connection I wish you would explain the respective rights of the State and the National Government in or to the water, irrespective of the land, on nonnavigable streams.

Mr. WELLS. I do not regard the question as to who controls the water as of importance; the question as to who owns the land is essential.

Mr. CHURCH. I merely asked you for the view of the court.

Mr. WELLS. The views of the courts are various on that. By the act of 1866 and certain other statutes the Federal Government has subjected the water on the public domain to appropriation under State laws. The States have passed laws concerning appropriations.

The courts of some of the States maintain that the water right, when acquired, comes from the State, and the Federal Government has nothing to do with it. Others of the State courts maintain that the water right, when acquired under the procedure prescribed by the State law, comes from the Federal Government, and that the State has nothing to do with it except to prescribe the procedure.

Mr. TAYLOR. What States hold that?

Mr. WELLS. That is what is called the California doctrine. The leading case is Lux *v.* Haggin, in California. All the Pacific Coast States and the States east of Colorado follow that doctrine.

Mr. TAYLOR (interposing). They are not irrigation States east of Colorado.

Mr. WELLS. Oh, yes.

Mr. TAYLOR. They are under the riparian law?

Mr. WELLS. No; they have modified the riparian law of water rights. Take Nebraska, where the reclamation service has a great project; also the Dakotas and Montana.

Mr. TAYLOR (interposing). Western Nebraska and western Kansas have come in recently.

Mr. WELLS. That is very recent, but of course California has the oldest law of water appropriation.

Mr. TAYLOR. Lux *v.* Haggin was decided in 1859. That has been modified, has it not, by a recent decision?

Mr. WELLS. Not to my knowledge.

Mr. TAYLOR. I think it has.

Mr. WELLS. I will say this: The question arose as to whether the act of 1866 applied on reserved lands or only applied on unreserved public lands. The latter was intimated by the attorney general in the opinion that I cited here. In submitting that matter to him in the Forest Service we assumed that the States controlled the water. He said, *obiter*, in his reply, that he did not think the assumption was correct with respect to the national forests, but whether it is correct or not the departments, by regulations, require conformity to the State laws of appropriation on unreserved lands as well as other lands, so that there is not any practical question about that. It is an academic question.

Mr. SINNOTT. Have not the United States courts decided that the question of water policy in any particular State rests solely with the State; that the State may determine who may appropriate water and how, and the State may determine whether or not the doctrine of appropriations or the doctrine of riparian rights may obtain?

Mr. WELLS. My understanding is that the Federal courts have so interpreted the act of 1866. If Congress repealed the act of 1866 the foundation for that would fall.

Mr. SINNOTT. Now, you say there is no restriction at all upon the regulation that may attach to the use of Government land. Is there any restriction upon the right of the State to attach to the use and appropriation of water—to the water itself?

Mr. WELLS. As long as the act of 1866 remains in force; no.

Mr. SINNOTT. It is solely by reason of the act of 1866, or 1877?

Mr. WELLS. As I say, the courts of the different States are in conflict. The California doctrine appears to me as sound law, and the Colorado doctrine unsound, but in either case the present law is the

same. The only question is whether Congress could change the law if it wanted to, which nobody wants it to do.

Mr. SINNOTT. In your opinion it rests solely with Congress, that the States get that right by virtue of the act of 1866?

Mr. WELLS. And the subsequent legislation; yes.

Mr. SINNOTT. Of 1877?

Mr. WELLS. That is my view of it. It is a disputed question.

Mr. SINNOTT. Is there any restriction upon the right of a State to permit the diversion of water above and before it reaches public lands?

Mr. WELLS. There may be.

Mr. SINNOTT. What are they?

Mr. WELLS. In the case of Winters against the United States, reported in 207 U. S. Reports, page 564——

Mr. SINNOTT. 207 U. S. Reports, page 564?

Mr. WELLS. Yes, sir. That case arose in Montana. The Government reserved for the use of the Indians, on an Indian reservation in Montana, certain water rights.

Mr. SINNOTT. Of course, that is very apparent, but where lower on the stream there has been no appropriation the Government is standing upon its rights to have the accustomed flow.

Mr. WELLS. I do not know whether the Indian reservation was above or below the appropriation, and I can not see that it makes any difference, because under the appropriation laws of the States that is not the important matter. The only question is priority. I can go above a piece of land and divert the water or take it out below and have it come down my ditch.

Mr. SINNOTT. Provided there is no lower person using the water.

Mr. WELLS. Provided there is no prior right—not lower or above, but prior. In other words, with reference to this Indian reservation, under the authority of Congress the water-right laws of Montana were suspended, and the Supreme Court said the power of the United States "to reserve the waters and exempt them from appropriation is not denied and could not be." That is the heart of the whole Indian irrigation question, because the essential and fundamental thing about the western water laws—and, I might say, an admirable thing—is that the beneficial use of the water is an essential thing to make the right good, but the Indian is not ready to make use of the water, and since the Indian holds the land for agricultural purposes, you have got to hold the water unused until he gets ready to use it.

Mr. SINNOTT. But the Government could not rely upon the doctrine of the right to exempt the flow in the face of a privilege granted by the State to divert the water above the Government land.

Mr. WELLS. I am under the impression that that is what they did in the Winters case, though the Supreme Court did not state the reason for that.

Mr. SINNOTT. Is that Winters case the one that is decided in 207 U. S.?

Mr. WELLS. Yes.

Mr. SINNOTT. There was a specific reservation there by act of Congress, of that water?

Mr. WELLS. No, it really looks like a very shadowy reservation when you come to examine it. The reservation was this, that this land was set apart for the Indians, and that the legislation that set it apart made it evident that the Government had in mind turning the lands into agricultural uses.

Mr. SINNOTT. Was there anything in the Indian treaty reserving the water rights?

Mr. WELLS. I think there was no mention of the water in the treaty. It was simply that the treaty and the statute of Congress contemplated agriculture in an arid country. This constituted the appropriation of water.

Mr. SINNOTT. Was there any question of the Indians being riparian owners in that case?

Mr. WELLS. Well, I do not regard the Indians as owners. The Federal Government is the owner; the Indian has a mere right of occupancy. I may say that the lawyers who argue for State sovereignty over the water point out the fact that when this case arose Montana was a Territory, and I think, in all fairness, I may say that it might also be pointed out that that decision might be based upon the broad constitutional grant of Federal power with respect to Indians, but the reasoning, it seems to me—that is, my own interpretation of it—the reasoning seems to me to rest upon the Federal ownership of the land.

Mr. SINNOTT. What do you consider a reasonable rate for the Government to charge?

Mr. WELLS. I think it would vary with the case. As I have already said, if I were sure that all the benefit was going to the ultimate consumer, as it would in the case of a municipality that owned and operated its own works, I would make no charge. If it were an electric-chemical industry, which required very low costs of water, I might make only a nominal charge. If it were a public-service corporation, competing in the market with anyone who generated electricity which costs a good deal more to develop, I think it is essential that the Secretary of the Interior should exact a substantial charge.

Mr. SINNOTT. What would you say should be the minimum and the maximum?

Mr. WELLS. My minimum would be zero. As to the maximum I do not know. I have not the data at hand.

Mr. SINNOTT. That is all.

Mr. JOHNSON. Would you make a difference in charge with respect to the quantity of the development, whether it was a large or small plant? I mean estimating the horsepower.

Mr. WELLS. Do you refer to penalizing men for insufficient development?

Mr. JOHNSON. Oh, no; I mean where the source of supply is insufficient to develop any more than a certain quantity. For instance, one source of supply may generate 100 horsepower, another one a 1,000, by way of illustration. Would you make any difference in the two?

Mr. WELLS. No reason occurs to me now for making a difference. There may be such a reason.

Mr. JOHNSON. It is true, is it not, that at the present time you are making no charge for plants which are owned and operated for the benefit of municipalities?

Mr. WELLS. I do not say that that is the present plan, but I simply say that would be, it seems to me, a desirable policy.

Mr. JOHNSON. Do you know whether it is or not?

Mr. WELLS. I do not know. Some of the Government men can tell you that.

Mr. JOHNSON. At least in my State that is the case.

Mr. WELLS. That is the case?

Mr. JOHNSON. Yes.

Mr. WELLS. I remember suggesting the matter to Mr. Pinchot when we were in the Forest Service together, but I do not know whether it has since been adopted or not.

Mr. JOHNSON. If that is the case, what, in your opinion, would be the difference between a plant owned and operated exclusively by a municipality to supply its inhabitants with the commodity produced, and operated by an individual or a company also applied to the same use, and where it is regulated by proper authority?

Mr. WELLS. I have already suggested my reason for thinking that the price regulation under certain circumstances can not pass on to the consumers all that in fairness they ought to enjoy. If it is to pass at all it must be as taxpayers. However, in a municipality that is serving its own inhabitants, you have made in that case, the consumer and the taxpayer the same man, and there is not any commercial company trying to get an advantage out of the public.

Mr. JOHNSON. I have in mind this condition which I know to exist in a number of small plants in my State, where the cities desire to construct plants, but by reason of the charter they were unable to bond themselves for sufficient money to construct it, and therefore the citizens of that town formed themselves into a corporation, subscribing stock universally, perhaps, or nearly so, in almost equal amounts to construct the plant and supply themselves that way with the water, and I know a number of such instances as that—very small plants. Now, in such a case as that what would be your opinion as to its being placed on a parity with that owned by the municipality itself?

Mr. WELLS. As long as that condition continued, of substantially equal ownership of the plant throughout the community, it would be a good policy to let them have it substantially free. The difficulty is, however, that the government can have no assurance that the condition will be continuous. I should rather have them apply to the legislature for authority to amend the charter.

Mr. JOHNSON. Except for the utility commission. That might be a check on that, might it not?

Mr. WELLS. Yes, to the extent that I indicated.

Mr. JOHNSON. Now, Mr. Wells, do you think it is a safe and proper proposition for the Government to offer its resources to its citizens upon the theory of varying or bickering prices?

Mr. WELLS. Upon what?

Mr. JOHNSON. Upon a theory of varying or differentiating between its citizens as to its acquisition of those utilities which it has to dispose of?

Mr. WELLS. I do.

Mr. JOHNSON. Do you think that is a safe policy?

Mr. WELLS. Do you mean whether the administrative officer shall have discretion to grant or withhold? Is that the idea?

Mr. JOHNSON. No, not exactly that, but whether they shall have the power to grant to me a certain commodity at one-half of what they might grant it to you.

Mr. WELLS. Why not? We are getting different commodities.

Mr. JOHNSON. I am trying to speak of the same commodity now. I am speaking of the rights of way to construct power plants over the public domain; I mean a right of way to convey water that may be necessary. Do you not believe that the policy of the Government requires that those rights, when granted to the citizens, should be granted in equality to one and all?

Mr. WELLS. I do not think that company A, which gets one power site which is twice as valuable as another, should be charged the same as company B, which gets that other.

Mr. JOHNSON. It is a fact, is it not, that the policy of this Government heretofore has been, with reference to its land, that whether the land was a good piece of land or a bad piece of land it was open to all citizens, to be acquired under the same terms and at the same price?

Mr. WELLS. That was formerly so.

Mr. JOHNSON. Is that not true now?

Mr. WELLS. There have been some very decided troubles and scandals which have grown out of that principle as applied to forest lien selections.

Mr. JOHNSON. Do you not think that this other method that you suggest would open the door wide to scandals, or to discrimination in every conceivable way?

Mr. WELLS. I do not.

Mr. JOHNSON. You do not?

Mr. WELLS. I think that the only way to get an efficient progressive democracy in this country, if I may venture into politics or political theory, is to arm the administrative officer with large power and hold him to strict accountability.

Mr. JOHNSON. Accountability to whom?

Mr. WELLS. To the people.

Mr. JOHNSON. Yes; but in most cases these administrative officers are persons with whom the people have not anything to do after placing them in power. Is that not true?

Mr. WELLS. I was under the impression that ultimately they control almost everything but the judiciary in some States.

Mr. JOHNSON. Do you think that the executive officers of the Government in the various branches, and more particularly the Secretary of the Interior, should be empowered to investigate and inquire into private transactions of the individual?

Mr. WELLS. That depends upon what you call private transactions. When the Edison Electric Co. officials were at our conference in 1908 in Secretary Garfield's office they objected to the charge we were making and said it was a burden upon them. At last they were invited to open their books to inspection of the Bureau of Corporations, and we promised that if the charge was found to be unfair to the producers we would change it. They did not accept the offer. I do not think that is private business.

Mr. JOHNSON. No; but it would seem to me your theory is that in granting this permit or this lease, whatever you may call it, the appli-

cant must specify the purpose for which he proposes to use the electricity. Is that not true?

Mr. WELLS. I have not made any such suggestion.

Mr. JOHNSON. I understand that to be the provision.

Mr. WELLS. I said that if the applicant could show that he was going to use the power for a purpose that required exceedingly cheap energy, that that would be a reason for reducing the charge to him.

Mr. JOHNSON. That would necessitate an inquiry as to the purpose for which it was to be used.

Mr. WELLS. On his invitation; yes.

Mr. JOHNSON. On his invitation?

Mr. WELLS. I see no impropriety of inquiring as to what purpose it is to be used for.

Mr. JOHNSON. You mentioned a case in California, the case of the Kern River Co., I believe, where a permit was revoked, or asked to be revoked, because the power had not been applied for the purpose for which it was designated. As I remember your statement, it was to the effect that water had been permitted to run into the river again and be used for irrigation below, which was owned by people having prior rights.

Mr. WELLS. My statement was that this company got a permit and a perpetual right to use the land of the United States under the irrigation act of 1891, that they did not irrigate a single acre with the water they took from the river, but all the water passes through their power wheel, and generates power and then passes back into the river, and is then taken out by others who have a prior right to use it for irrigation.

Mr. JOHNSON. Exactly. That is as I understood you. Now, then, the use of the water for irrigation is a consumption of the element itself?

Mr. WELLS. Yes.

Mr. JOHNSON. And if those people down below had a prior right to this water they were entitled to have it flow to them as it formerly flowed?

Mr. WELLS. Absolutely; and they went into court and compelled the company to do that.

Mr. JOHNSON. Would not that of itself prevent the company from taking the water out for the purposes which you suggest?

Mr. WELLS. Absolutely. It meant that their pretense of using the water for irrigation was absurd.

Mr. GRAHAM. It does not seem to me that that would be sound law.

Mr. WELLS. Which?

Mr. GRAHAM. That irrigationists down the stream could not prevent the use of the moving water downstream which in no way interfered with their right.

Mr. JOHNSON. If it were used for irrigation that would be a consumption of it.

Mr. GRAHAM. I had the reverse of the operation. I thought you said that the users that were upstream were were using it for power, and that the irrigationists objected to that use.

Mr. JOHNSON. No; the proposed use of that stream, as I understand it from Mr. Wells——

Mr. TAYLOR (interposing). You are both right, but you do not understand each other.

Mr. JOHNSON (continuing). They could not use it because the water was needed lower down, but they could use it to turn their wheel for power purposes.

Mr. WELLS. Exactly; and they came to the Secretary of the Interior and said, "We do not want to use it to turn wheels, but we want to use it to irrigate land."

Mr. JOHNSON. And their permit to use the water is in course of being canceled because they were using the water for power instead of irrigation. Is that right?

Mr. WELLS. The right to have a perpetual easement without control ought to be canceled. The cancellation of that right was suggested, and the substitution of a right to use it under the statute provided for water power use.

Mr. JOHNSON. What is the condition of the proceedings now pending in that case?

Mr. WELLS. I am not informed that there are any proceedings further than a communication from the Agricultural and Interior Departments to the Department of Justice.

Mr. JOHNSON. In that case, however, the decision of the department was that they could not use it for creating power, because they had applied for it as a use for irrigation.

Mr. WELLS. They could not use it under the irrigation act; they would have to use it under the power act, for power.

Mr. JOHNSON. Are you familiar with the operation of the Telluride Power Co.?

Mr. WELLS. To some extent. Mr. Nunn, I think, was in that company, was he not?

Mr. JOHNSON. Yes.

Mr. WELLS. He appeared before the Forest Service and negotiated to some extent with us.

Mr. JOHNSON. You are aware that that is a company operating in Idaho, Utah, Colorado, Nevada, and possibly other States?

Mr. WELLS. I think that since the time I conducted those negotiations there has been consolidation out there that put all that region under one combination.

Mr. JOHNSON. They have some permits, have they not, from your department?

Mr. WELLS. I think they have some.

Mr. JOHNSON. And I believe they also have other rights independent, have they not?

Mr. WELLS. I think they claim other rights, and I presume they have them.

Mr. JOHNSON. And you understand they have consolidated all their interests?

Mr. WELLS. So I understand.

Mr. JOHNSON. And are serving these four States?

Mr. WELLS. So I understand.

Mr. JOHNSON. I believe, however, that you stated that you saw no objection to a consolidation where it is properly conducted?

Mr. WELLS. Properly regulated would be better.

Mr. JOHNSON. I understood you to say you could see no objection to consolidation if properly regulated.

Mr. WELLS. Yes, sir.

The CHAIRMAN. Mr. Taylor, do you care to ask any questions?

Mr. TAYLOR. One or two.

You believe, then, as I understand it, in a kind of a monopoly—a controlled and regulated monopoly—do you not?

Mr. WELLS. I believe that the highest efficiency can be obtained by consolidation of plants within transmission distance, if properly controlled.

Mr. TAYLOR. Somewhat similar to the telephone service in a community? If there is one telephone service which goes into everybody's house and is a good service, it is better than having a half dozen?

Mr. WELLS. I think so.

Mr. TAYLOR. Because of duplication of lines and rights of way and the cost of administration and everything else?

Mr. WELLS. Yes, sir.

Mr. TAYLOR. I want to ask you one other question along the line that Mr. Johnson was inquiring concerning municipal plants. We have a great many towns, as you know, in the West that are so situated that they could own their own municipal plants, and do you not think that there ought to be a provision in here to exempt the municipalities from payment of the royalty in the event that the towns are using the power exclusively for the benefit of the citizens and not as a money-making proposition at all?

Mr. WELLS. I would have no objection to such an exemption at all, Mr. Taylor. I would suggest, however, that it has seemed to me when these measures were debated in Congress for some years past that an exemption of that sort expressed in a bill would bring much opposition to the bill that otherwise you would not have. I think that you can very safely and much better for the West leave it uniform in the bill and let the Secretary of the Interior take care of it.

Mr. TAYLOR. But if, as Mr. Fisher and I think, some other men who have looked at this matter rather broadly are right—your position, as I understand, is not primarily to make money out of the West?

Mr. WELLS. Not at all.

Mr. TAYLOR. It is not to put a tax upon our people out there or to put a burden on our development for the Federal Treasury? That is not the primary object, is it?

Mr. WELLS. No; it is not even the secondary object.

Mr. TAYLOR. And if that is not the object of anybody, why ought we not encourage municipal ownership, municipal plants, the acquiring of light and power in the cities and in the homes for the thousand and one uses that it will be put to in the near future, and does it not tend to encourage the cities and towns to install that kind of a plant, and if the legislatures have not passed laws authorizing them to, thereby encouraging them to do so, and would it not be very much better for the general welfare of the West, regardless of what some Senator or what somebody in the East might do or say about it?

Mr. WELLS. That is the reason, I think, that the right of recapture should be maintained, so that the municipalities in Western States could take the business over on better terms. I would not want to take the position or attitude of being opposed to that, but I think that you would encounter opposition to the bill if it were put in.

Mr. TAYLOR. Why could we not put that in there now, just to encourage the States to come in under it?

Mr. WELLS. As I said, I think that probably the effect will be to stir up a little opposition to the bill.

Mr. TAYLOR. The committee was kind enough to adopt an amendment of that kind for me in the coal-leasing bill.

Mr. WELLS. I remember negotiating with you about the coal matter.

Mr. TAYLOR. Mr. Johnson has just suggested to me this question: What real grounds could anybody assign for opposing that kind of amendment in the House?

Mr. WELLS. As I recall the Hetch Hetchy controversy, and to some extent possibly the debates in Congress over it, the argument was made by some people that the city of San Francisco was selfishly grabbing something to which it was not entitled. I do not sympathize with that in the least; but that argument was made, and it made a good deal of noise, and I received quite a good deal of stuff through the mails about it.

Mr. TAYLOR. If this whole proposition is good for the West, why should not we allow that same privilege wherever it is applicable to eastern cities, in the navigable streams? In other words, why should we not let the city of Washington have the Great Falls up here, which they say is navigable, free of royalty?

Mr. WELLS. I would like to ask the company that owns it why.

Mr. TAYLOR. Or any other place, in any of the Eastern States?

Mr. WELLS. It was explained here that the Great Falls were not worth development, by Mr. Leighton. But, according to his statement, the company was holding onto that undeveloped site, and Mr. Leighton's statement was that the power company would continue to hold it undeveloped.

Mr. TAYLOR. He said that they could manufacture power cheaper by steam and gas or coal.

Mr. WELLS. They are trying to hold on to that water power site so that nobody could put in a competing plant up there.

Mr. TAYLOR. Of course, I do not care to get into an argument on this point, but I am just using that as an illustration. There are these sites all over the East, are there not, in streams?

Mr. WELLS. Yes.

Mr. TAYLOR. And in navigable streams the Government ought to have control?

Mr. WELLS. I think so.

Mr. TAYLOR. It would seem as though that same policy ought to be germane and applicable to navigable waters, ought it not, back here?

Mr. WELLS. I think the policy is good everywhere. The only difficulty I have in mind is the opposition to the bill that might be brought about by expressly prohibiting rentals for municipal plants.

Mr. TAYLOR. You do not claim that the act of 1866 has ever been repealed, do you?

Mr. WELLS. Yes; with respect to rights of way for irrigation, it was repealed by the act of 1891; with respect to rights of way for power it was repealed by the act of 1896. The Circuit Court of Appeals for the Eighth Circuit so held in the case I have cited.

Mr. TAYLOR. That it repealed the act of Congress of 1866?

Mr. WELLS. So far as the act of 1866 gives a right of way for ditches and canals over the lands of the United States for power development, yes.

Mr. TAYLOR. It does not claim that that is effective for irrigation, does it?

Mr. WELLS. Irrigation?

Mr. TAYLOR. Yes.

Mr. WELLS. It seems to me that the same reasoning is conclusive as to the irrigation act of 1891. The irrigation right of way act of 1891 must repeal the act of 1866 so far as irrigation is concerned. I can not see any escape from that conclusion.

Mr. TAYLOR. Are you willing to respect the vested rights of the irrigators of the West in this law?

Mr. WELLS. I am not only willing but anxious to do so.

Mr. TAYLOR. Why should it not contain an express provision of that kind?

Mr. WELLS. I have not thought that any such provision was necessary.

Mr. TAYLOR. Why should it not go in here? Is there any reason why it should not go in here?

Mr. WELLS. I would not cumber up the bill with things that were not germane.

Mr. TAYLOR. But somebody may reason just like you do on the act of 1891 and say that this power continued as a matter of course, would they not?

Mr. WELLS. I do not so reason with respect to any vested rights.

Mr. TAYLOR. There might be a question of what is a vested right. Why should we not obviate the possibility of that trouble in passing this bill?

Mr. WELLS. I do not know what language you have in mind that you could put in here as a disclaimer of that sort. It would seem to me that it would be wholly unnecessary. I do not see that it would do any harm.

Mr. TAYLOR. If it is wholly unnecessary and you have not any objection to the bill being so construed, why should we not obviate a possible construction of that kind?

Mr. WELLS. It would possibly involve us in litigation and trouble.

Mr. TAYLOR. If we had that kind of a clause in here?

Mr. WELLS. I do not wish any possible litigation and trouble with respect to this bill.

Mr. TAYLOR. If you are willing to respect our rights, are you not willing to say so?

Mr. WELLS. I have no objection.

Mr. TAYLOR. That is what I mean.

Mr. WELLS. Most of these disclaimers that are put into acts of Congress do not amount to very much, except this, they help the bill through Congress.

Mr. TAYLOR. Where they pertain to our irrigation rights they are very jealously guarded, as all our wealth, pretty near, in the West depends upon it.

Mr. WELLS. Oh, I know how important it is.

Mr. TAYLOR. I am through.

The CHAIRMAN. Mr. Stout, do you care to ask any questions?

Mr. STOUT. Just one or two questions.

Mr. Wells, it is true that the system of State-regulated monopoly is more conducive to the rapid and economical development of such water powers?

Mr. WELLS. Yes; within the limits which I have stated. I do not think monopoly should be forced. I think conditions are creating it in spite of us, and I think the consolidation and tying-in of numerous sites is desirable, provided it is properly regulated. I think it is inevitable.

Mr. STOUT. Well, then, assuming that they tie in a plant, a monopoly ties in a plant and then ceases to use it; would that be an economic loss or gain?

Mr. WELLS. I should think it a loss to let the plant go out of operation; but under certain circumstances it may be the best thing to do with a plant. For instance, if a plant were built to supply power in a mining camp, and the mines were worked out, and there was no other outlet for the power, it might be well for it to go out of operation.

Mr. STOUT. Take, for example, towns of 5,000 or 6,000 people, which have water power which furnishes the power for lighting and heating and motor purposes in that city; that particular plant goes into the hands of a big corporation which has another water power 200 miles away, and they send their transmission line into this town and put this local water power out of business; it is a good water power, but do you consider it an economical and wise thing that that water power should be forever put out of business?

Mr. WELLS. As you state it, I should think not. I should not think they were getting proper regulation in that case if they allowed them to do that.

Mr. STOUT. Do you think that proper regulation would reach such cases as that?

Mr. WELLS. Yes; I think this bill aims to do that by prohibition of combinations to limit output, fix and maintain or increase prices, or restrain trade. That is evidently aimed at that.

Mr. GRAHAM. What if the transmitted power was furnished cheaper than the local power?

Mr. STOUT. Well, I do not know whether it does or not, whether it can be or not. Your regulated monopoly contemplates, of course, supervision of capital stock?

Mr. WELLS. The capitalization should be supervised. I think it would be safer to leave these things to the States, when they will do it.

Mr. STOUT. And you think that we have inevitably reached that point where monopoly is upon us and the era of competition belongs to the dead and buried past?

Mr. WELLS. No; I am talking about water power.

Mr. STOUT. That is what I am talking about.

Mr. WELLS. In water power I think consolidation is bound to go ahead. It can not be stopped, and it is the best. The best public advantage lies along that line, provided there is proper control.

Mr. STOUT. That is all.

The CHAIRMAN. Mr. Raker, do you wish to ask any questions?

Mr. RAKER. Yes, sir.

Mr. Wells, in your presentation of this matter to the committee, have you differentiated in the right of the National Government over lands and streams in a territory and that over lands and streams in a State?

Mr. WELLS. In my talk here?

Mr. RAKER. Yes.

Mr. WELLS. No; I have not.

Mr. RAKER. Well, does your presentation of the matter to the committee relate particularly to the United States, or does it relate to the State?

Mr. WELLS. You mean my statement as to the legal right of the United States to control?

Mr. RAKER. Yes.

Mr. WELLS. I had in mind the States. Of course what is true of the Federal power in the States is still more true in the Territories, because they can do anything there.

Mr. RAKER. Let us see—is not just the reverse the fact? Is it not true that in a territory the Federal Government has all the land?

Mr. WELLS. Yes.

Mr. RAKER. All the water and all the water rights and all the rights that may be had upon navigable and non-navigable rivers?

Mr. WELLS. That is precisely what I said.

Mr. RAKER. Let me finish my question, please.

Mr. WELLS. Yes.

Mr. RAKER. As to States, municipal powers, and all others that may be in the Territory?

Mr. WELLS. Absolutely.

Mr. RAKER. It does not have that right in a State?

Mr. WELLS. No; therefore I say that whatever rights it has in a State it has those and more in a Territory.

Mr. RAKER. Well, is the converse not the fact?

Mr. WELLS. I do not think we understand each other, Judge. In the States the power of the Federal Government is limited by the rights of the State. In the Territory it has all that the Federal Government has in the States and it has something more.

Mr. RAKER. Well, in the States it has all the power except that which was reserved when the State was made a sovereign State? Is that not right?

Mr. WELLS. It has the power that was reserved in the Constitution of the United States.

Mr. RAKER. And in the enabling act, when the State became a sovereign State?

Mr. WELLS. I do not know that I follow you there. I do not look into the enabling act for Federal authority but into the Constitution.

Mr. RAKER. Do you not have to in certain instances?

Mr. WELLS. You may suggest some; they do not occur to me.

Mr. RAKER. On your presentation of the matter to the committee, as relates to the effect of the case of Winters *v.* The United States, as reported in the 207th U. S., commencing at page 564, the opinion that was referred to in discussing the subject which you presented commencing at page 572, does not that opinion relate simply and only to the control that the Government had over the property of a Territory?

Mr. WELLS. I do not think so. I called the attention of the committee to the fact that many lawyers so regarded it, but I do not.

Mr. RAKER. Are not the facts of the case these, that this agreement between the Indians, the treaty between the Indians, was made when this Territory afterwards became a State?

Mr. WELLS. Exactly. It was made when it was a Territory.

Mr. RAKER. Yes.

Mr. WELLS. Certainly.

Mr. RAKER. And that the agreement, no difference what it might have been, the Government had the absolute right to make any reservation that it saw fit, having control of water and land both?

Mr. WELLS. Certainly.

Mr. RAKER. The syllabus states as follows:

"The Government of the United States has the power to reserve waters of a river flowing through a Territory, and exempt them from appropriation under the laws of the State which that Territory afterwards becomes."

Now, is not that all that this decision states, and particularly refers to the cases of the United States *v.* The Rio Grande Ditch & Irrigation Co., 174 U. S., 690–702; United States *v.* Wymans, 198 U. S., 171, holding and stating that this agreement had been made between the Indians and the Federal Government, and that when the State was made and created, within which this Territory was, that it was admitted subject to the prior agreement between the Indians and the United States, and simply upon that ground did the court render its decision?

Mr. WELLS. I do not so regard that case. I called the attention of the committee and your attention to the fact that many lawyers did so regard it, but I do not.

May I call attention to the provisions of the reclamation act?

Mr. RAKER. Yes.

Mr. WELLS. They are, in one respect, in conflict with the laws of at least one of the Western States with respect to water rights.

Mr. RAKER. Go ahead.

Mr. WELLS. The act provides that the water rights acquired thereunder shall be appurtenant to the land irrigated, and I take it that anybody who acquires a water right under the reclamation act does have that water right appurtenant to his land, though the provisions of the laws of the State may not so provide.

Mr. RAKER. That is a matter of private construction that has been held practically from the beginning of time, that when a man had a water right or had water upon his privately owned land it became appurtenant to the land and always passed with the land as part of the land, though not specified in the deed, and it has been the universal construction of the courts that without any special designation the water rights passed with the title to the land.

Mr. WELLS. That is the usual provision in the West. But that time has not begun in the State of Washington yet. The law of the State of Washington is to the contrary, or was as late as a year ago.

Mr. RAKER. That the water right is not appurtenant?

Mr. WELLS. That the water right is not appurtenant.

Mr. RAKER. Is not appurtenant to the land and does not pass with the land?

Mr. TAYLOR. You have to deal with the water right separately in Colorado, Judge.

Mr. WELLS. I take it that the Federal sovereignty with respect to that controls everybody that gets a water right under the Reclamation Act, anything in the laws of the States to the contrary notwithstanding.

Mr. TAYLOR. It is a separate piece of real estate, and it has got to be mentioned or it does not go.

Mr. RAKER. That is all right in particular States. I am referring to this particular State where these facts came from. The case came from the State of Montana.

Mr. WELLS. I do not now recall what the law is in Montana, but in general throughout the West that is true.

Mr. GRAHAM. The man who made the laws of Montana is here.

Mr. RAKER. Do you find any case wherein the Supreme Court has held similar to these cases that have been referred to, where the controversy arose in a State where there had been no prior reservation by the United States before the Territory became a State, and while it was still a Territory?

Mr. WELLS. I do not now recall, Judge, any case in the Supreme Court of the United States where the whole matter arose after the State was admitted. That is your question?

Mr. RAKER. Yes.

Mr. WELLS. I do not know. I do not recall any such case. I hardly think there is one, unless it is very recent, because I would have known about it.

Mr. RAKER. In these cases where it was not a Territory the supreme courts of the States, as well as the United States, where the question came up as to public lands decided the cases solely and entirely upon the question of the State law, as to whether or not it was riparian and whether the party had a right by prior appropriation?

Mr. WELLS. I do not think that word "solely" is quite right. You see, what Congress has done, according to the California doctrine, is to say the United States will give a water right to anybody who will go through the procedure prescribed by the State of California.

Mr. RAKER. How is that? I did not quite catch that.

Mr. WELLS. What the United States does according to the doctrine of your State is this: The United States offers its lands to people who will go and take them up under the homestead or other laws, and it offers its riparian water rights to people who will come and go through the procedure prescribed by the State of California, and your court has said that when the water right is acquired it passes immediately from the United States to the appropriator and does not go through the State.

Mr. RAKER. Does not the question of riparian rights in California depend upon the admission of the State into the Union and the acts of the legislature permitting the Government to stand on the same basis as a private riparian owner?

Mr. WELLS. I do not think so. But I do not know of any subject which could be opened to discussion that would last longer and would reach less agreement than this one, and it does not seem to me that it is important from the point of view of this bill what the academic view of the law of water rights is.

Mr. RAKER. That might be true, but I was trying to get your views on this matter to lead up to questions that were discussed as to the relative ownership between the State and the Federal Government, as to the question of control and regulation and charge which should be made by the Federal Government upon permits granted to rights of way and dam sites, etc.

Mr. WELLS. Even assuming that the State had all the rights that are claimed for it under the Colorado doctrine—that is, that as a sovereign State Colorado can dispute anything that Congress might do to control the waters upon public lands within the State—even assuming that, it would not change my view of this bill.

Mr. RAKER. I see. You do not question the generally approved doctrine, for instance, of California, that water and all of its utilization and the handling of it belongs to the State?

Mr. WELLS. Yes; I do question it. I understand that that is not the doctrine of your State.

Mr. RAKER. What do you understand to be the doctrine of the State as enunciated by the Supreme Court of the State of California and affirmed by the Supreme Court of the United States?

Mr. WELLS. I understand that the doctrine of your State is that the water right belongs with the riparian proprietor, whether he is a private owner or the United States, until he either gives it up voluntarily, as the United States has done by the act of 1866, or until it passes from him by the operation of law in some other manner, as by defeasance or adverse possession.

Mr. RAKER. I will answer the two questions. The act of 1866 gave anyone or everyone the right to appropriate the water from the public lands of the United States?

Mr. WELLS. It offers that right.

Mr. RAKER. It offers the right. In other words, the Government says, "We will permit anyone to take the water out of the streams flowing over the public domain."

Mr. WELLS. That is my view of it.

Mr. RAKER. Now, whenever any of the lands above or below a particular tract had been in private ownership, the man that obtained the intermediate tract, supposing it still remains public land, and obtained the title to it, he obtained that title subject to all the rights the men above had obtained, as well as the man below. He gets no additional rights because of his patent from the United States, the water right already having been taken. Now, by what process of reasoning, and by what law do you claim, Mr. Wells, that this act of 1866 has been repealed?

Mr. WELLS. The act of 1866, or the section of it we are talking about, consists of two parts. The first part does what you have just stated. It offers water rights to anybody who will come and appropriate them according to the procedure prescribed by the State. The second part grants a right of way over lands of the United States for ditches and canals for mining, manufacturing, and agricultural purposes. The first part, as to the water right, is still the law. The second part has been repealed, says the circuit court of appeals for the eighth circuit in the Utah case, in so far as ditches and canals for the development of water power are concerned.

Mr. RAKER. Solely as to water power?

Mr. WELLS. That is all that was in that case.

Mr. RAKER. Does it make any distinction as to what it is used for—the water power—whether it is used for pumping purposes or for irrigating? Supposing a man goes to work and gets his ditch out of the stream, puts in his dam, builds his ditch, takes the water out of the stream and generates electric energy for the purpose of pumping water for irrigation, have the courts in any place held that the act of 1866, which gave him that right, has been repealed?

Mr. WELLS. If it is repealed with respect to power by the act of 1896, then it is, by like reasoning, repealed with respect to irrigation by the act of 1891, which grants a right of way for irrigation over the public lands under certain provisions differing from the act of 1866; so that now if you want to get a ditch for irrigation you must go to the Secretary of the Interior under the act of 1891, and if you want to get a ditch for power you must go to the Secretary of the Interior or of Agriculture under the acts of 1896 or 1901.

Mr. RAKER. Is there not a distinction as to whether it is reserved lands or nonreserved?

Mr. WELLS. The only distinction that has ever been suggested is that the act of 1866 is annulled entirely by the process of reserving land for national forests or other Federal uses.

Mr. RAKER. Do you hold that all of the rights granted under the act of 1866 have been repealed by the act of 1901 or 1896, so far as it relates to Government land that is not in a reserve?

Mr. WELLS. Any rights that have been granted under those acts are not affected in any way. They are vested rights except in so far as they are revocable if acquired under the act of 1901. But the offer of the United States to give future rights has been repealed and withdrawn as to the purposes contemplated by these later statutes.

Mr. RAKER. Both as to reserved and unreserved lands?

Mr. WELLS. Certainly, as to reserved and unreserved lands; and the Attorney General of the United States makes the further suggestion that the reservation of the land itself wipes out the act of 1866 for all purposes as to that land.

Mr. RAKER. Then a man desiring, on the public domain, to obtain water power for the purpose of running an over-end wheel to run a grist mill—as to him the act of 1866 has been repealed?

Mr. WELLS. The man who now wants it?

Mr. RAKER. Yes.

Mr. WELLS. Yes. So says the circuit court of appeals for the eighth circuit.

Mr. RAKER. What is that case? Do you remember?

Mr. WELLS. Yes. It was a case involving some plants of Mr. Nunn that were referred to here. The action is The United States *v.* The Utah Power & Light Co., reported in 209 Federal Reporter, 554. It was decided by the circuit court of appeals for the eighth circuit last November. The effect of it is this, as I have it in my notes.

United States Revised Statutes, section 2339 (being the act of 1866, granting right of way over the lands of the United States for ditches and canals), was repealed as to ditches and canals for the generation of electric power, by the act of May 14, 1896, section 2, authorizing the Secretary of the Interior to permit the use of rights of way for generating, manufacturing, and distributing electric power.

That is my own syllabus of that point.

Mr. RAKER. Do you not believe it would be an unfortunate thing, if it is a fact, that the acts of 1866 and 1877 have been repealed?

Mr. WELLS. I have not heard any suggestion that the act of 1877 was repealed.

Mr. RAKER. It relates to partially the same subject, and if it repeals the act of 1866, I do not see why it would not wipe out the act of 1877.

Mr. WELLS. The act of 1877 relates, does it not, wholly to the water rights?

Mr. RAKER. I think not altogether; no. I do not know.

Mr. WELLS. I do not recall the language referred to.

Mr. RAKER. Now, taking this repeal provision of this bill—suppose it was enacted into law—section 14, would it be your view that the act of March 3, 1891, would be repealed?

Mr. WELLS. No. I should be quite careful that it should not be.

Mr. RAKER. Well, under this present bill, what have you to say?

Mr. WELLS. I do not think that it would affect it at all. It might affect the act of 1898, which says that easements acquired under the act of 1891 for irrigation may be used for power and subsidiary purposes.

Mr. RAKER. How is that?

Mr. WELLS. The act of 1898 says that easements acquired under the irrigation act of 1891 may be used for power development subsidiary to the main purpose of the irrigation. If that act of 1898 would not be repealed this bill ought to be changed.

Mr. FINNEY. That was the intention, Mr. Raker. The purpose here is not to repeal any statute which grants a right of way for irrigation, or for any other use of the public lands, except the development or transmission of water power. If we have gone any further, of course we want to straighten it up. I do not believe that in repealing any act contrary to this act you repeal an act, we will say, which relates solely to irrigation.

Mr. RAKER. Section 18 of the act of March 3, 1891, 26 Statutes, page 1035, states that the right of way through the public lands and reservations of the United States is hereby granted to any canal or ditch company formed for the purpose of irrigation.

Now, they are formed for the purpose of irrigation. It does not say whether it is all primarily to be turned upon the ground for irrigation purposes, or whether part of it is to be used for electric energy to use for pumps. Now, if part of it is to be used for pumps, would not this act repeal it, and would it not be a bad thing to repeal such a beneficial law?

Mr. WELLS. The department has held that the act of 1891 does not apply when part of the use is to be other than irrigation. Therefore, a person can not now get a right under the act of 1891 for part irrigation and part power. What he has to do is to call in the aid of the act of May 11, 1898.

Mr. RAKER. Yes.

Mr. WELLS. Which allows him as to what he got for irrigation only to use it for power also as subsidiary to irrigation.

Mr. RAKER. Now, ought that right not to be granted to irrigationists? Ought it not to be granted to miners who build a ditch and want to generate electric power for their mines and for milling as well as for use in their mines?

Mr. WELLS. The difficulty with that is that we ought to know what we are granting to any of these people, and the acts we now have, both as to mining and irrigation, are very difficult of administration and interpretation, and embarrass the development in the West by casting a doubt upon irrigation enterprises, because of the bad experience we have had, of some people using that pretense in getting power rights.

Mr. RAKER. The original purpose of this bill, as presented, is that the Secretary is hereby authorized and empowered, under rules and regulations, to lease the lands for these purposes. Now, would we not be in a still worse condition with a general grant like that, with a repealing clause that repealed all laws that were in any way in conflict with it? Would it not take with it the right of a miner to build his ditch and put up a power plant for the purpose of running his mine or running his mill, and ought that to be taken from him?

Mr. WELLS. I think under the bill as it reads probably he would have to get a right under this act, provided there was a public service commission in that State, so that this act applied, and I think that should be the case.

Mr. RAKER. Well, he is running it for his own benefit, and why should he be put under a public service commission to run his own property when he is not furnishing any other person any electricity?

Mr. WELLS. I am not saying whether he should or should not. I am saying that this bill does not apply where there is not a public service commission. If the bill should be passed in the present shape the first question about him is, Is there in that State a public service commission? If there is, he is under this bill.

Mr. RAKER. And the prior laws giving him his rights would be repealed?

Mr. WELLS. Yes; I understand that is the purpose of this bill. If it is not, I would make it plain.

Mr. RAKER. Ought it to contain that? That is what I am trying to get at.

Mr. WELLS. I think it ought.

Mr. RAKER. Here is a man or a company in the mountains that has taken out a ditch and has gone to a large expense to build a dam and ditch, and has built a power plant for his own mine, to run his mine or run his mill. Why should that particular private enterprise be put under any commission to fix prices when there are no prices to fix?

Mr. WELLS. I do not say that. I am not suggesting that it should be under a commission. The bill says that this bill shall not go into effect unless there is a commission in that State. Now, the first question is, Does this bill affect the State where your man is?

Mr. RAKER. No; I have not any man; I am just taking an assumed case.

Mr. WELLS. I mean your suggested case, your supposed man. If it has, then the supposed man is under this bill. That is the only reason I mention the public-service commission; not that I want to regulate him, but the existence or nonexistence of the public-service commission determines the fact whether this bill applies or does not apply, according to the bill as it now reads.

Mr. RAKER. What effect would this section 14 of this proposed bill have upon the act of February 15, 1901, in which it says:

That the Secretary of the Interior be, and hereby is, authorized and empowered, under general regulations to be fixed by him, to permit the use of rights of way through the public lands, forests, and other reservations of the United States, and the Yosemite, Sequoia, and General Grant national parks, California, for electrical plants, poles, and lines for the generation and distribution of electrical power, and for telephone and telegraph purposes, and for canals, ditches, pipes and pipe lines, flumes, tunnels, or other water conduits, and for water plants, dams, and reservoirs used to promote irrigation or mining or quarrying or the manufacturing or cutting of timber or lumber, or the supplying of water for domestic, public, or any other beneficial uses to the extent of the ground occupied by such canals, ditches, flumes, tunnels, reservoirs, or other water conduits or water plants, or electrical or other works permitted hereinunder, and not to exceed fifty feet on each side of the marginal limits thereof, or not to exceed fifty feet on each side of the center line of such pipes and pipe lines, electrical, telegraph, and telephone lines and poles, by any citizen, association, or corporation of the United States, where it is intended by such to exercise the use permitted hereunder, or any one or more of the purposes herein named: *Provided*, That such permits shall be allowed within or through any of said parks or any forest, military, Indian, or other reservation only upon the approval of the chief officer of the department under whose supervision such park or reservation falls, and upon a finding by him that the same is not incompatible with the public interest: *Provided further*, That all permits given hereunder for telegraph and telephone purposes shall be subject to the provision of title sixty-five of the Revised Statutes of the United States, and amendments thereto, regulating rights of way for telegraph companies over the public domain: *And provided further*, That any permission given by the Secretary of the Interior under the provisions of this act may be revoked by him or his successor, in his discretion, and shall not be held to confer any right, or easement, or interest in, to, or over any public land, reservation, or park.

Approved February 15, 1901.

Now, is it your view that this provision would repeal the act that I have just read?

Mr. WELLS. My view is that this bill, in the States to which it applies, would repeal all of that act that relates to the subject matter of this bill, to wit, the generation, transmission, and utilization of hydroelectric power, and all the rest of that act would remain in force.

Mr. RAKER. Irrespective of what it was used for? I am very much interested in this, and I want to be particular about it, because it is very vital to my part of the country.

Mr. WELLS. Irrespective of what the power would be used for.

Mr. RAKER. Yes; you think it would repeal it so far as the generation, transmission, and utilization of hydroelectric power is concerned for running a mill of a private individual or for putting up a plant to run down in the valley and put up pumps for irrigation for the private individual himself, providing, now, of course, the prior conditions exist, that there is a public-utilities commission in that State?

Mr. WELLS. I am inclined to think that the bill, as it now reads, would repeal that, but I think that your supposition of a power plant to run a mine is an unusual case.

Mr. RAKER. Why?

Mr. WELLS. I am not an engineer, Judge Raker, and I may be entirely wrong on this, but my information is that you can not use hydroelectric power economically unless you have what is called a high load factor. In other words, unless your use is pretty steady and continuous; and, since power that is used in the mines is very often irregular in the time it is used, it makes electricity an expen-

sive kind of power unless there are lots of mines all tied in together and served by one power company.

Mr. RAKER. I know, but some of the best mines in our State to-day were, five or six years ago, practically abandoned because the wood and other material is so expensive, and they are able now to get electric power, and they are running their mines.

Mr. WELLS. Where are they getting it?

Mr. RAKER. At the electric-power plant.

Mr. WELLS. Exactly, but they are not getting it from any power plant of their own.

Mr. RAKER. A few of them are getting it from the electric-power plant, and some of them are using their own.

Mr. WELLS. Those who are using their own, I think, would be exceptional. Of course, the engineers here could tell you that much better than I can.

Mr. RAKER. Oh, I see.

Mr. WELLS. But, as I understand it, as has been explained to me by power men themselves, in dealing with that, if there is a large mining territory in which a single power company is supplying lots of mines, so that there would be a continuous use for its output, and especially if that company supplies power for the mines in the daytime and for other uses at night, then you get a high load factor, and the use of electricity in mining would be economical.

Mr. RAKER. In other words, if that feature of this bill were carried into effect, and there is no reservation as to the existing law as to private individuals who want to use an electric plant for a mine or a mill or a pumping plant for irrigation, it practically puts them out of business and puts it all into some large concern, does it not?

Mr. WELLS. It would not be any larger under this bill than it would under the existing law. He can get a lease under this bill for as small a plant as he pleases to serve himself.

Mr. RAKER. And then you would repeal the act of May 11, 1898. Is that you view of it also?

Mr. WELLS. I understand that is what is intended, and if there is any doubt about it, you should put it in.

Mr. RAKER. And also the act of February 1, 1905?

Mr. WELLS. Section 4, yes; by all means. That is one of the most embarrassing things we have had to deal with.

Mr. RAKER. I do not get your viewpoint as to embarrassing. What do you mean by that?

Mr. WELLS. I mean that a man comes to the department and says that he wants a power plant for municipal and mining purposes under section 4 of the act of 1905, and from everything that appears it is perfectly evident that what he is trying to do is dodge the act of 1901 and get a free easement without any control whatever for public-power service. The departments are up against that difficulty all the time, and it ought to be stopped.

Mr. RAKER. For what reason? What is the wrong to be corrected?

Mr. WELLS. The wrong to be corrected is the attempt to use those acts (of 1898 and 1905, concerning irrigation and municipal and mining uses) to circumvent the power act of 1901 and to cir-

cumvent this bill, were this bill to pass; and the embarrassment of the departments in seeking to prevent this abuse.

Mr. RAKER. Has there been any wrong perpetrated by virtue of giving the man a right to develop a plant for municipal purposes and mining purposes?

Mr. WELLS. I do not know whether anybody ever asked for municipal and mining purposes together. I can not recall, but I know that there have been attempts to get power sites for mining purposes under that act that ought to have been prevented.

Mr. RAKER. Well, has there been any injustice to the Government or any injustice to the citizens that were to obtain the benefit of that, or to the mining company, if a right were granted that they might build a hydroelectric plant and develop power for the purpose of improving their mine and taking out the ore that was lying dormant in the bowels of the earth?

Mr. WELLS. There would be injustice if the thing had succeeded, or in so far as it had succeeded, because what they would do would be to get a valuable power site and get control of a vast natural resource and have all the people in that region dependent on them for that from which they get the necessaries of life.

Mr. RAKER. Can you give the committee any illustration where that has occurred—where a monopoly has been obtained in that way?

Mr. WELLS. Where it has occurred?

Mr. RAKER. Yes.

Mr. WELLS. I know that there have been various attempts to get the department to approve of easements under the act of 1905.

Mr. RAKER. Has there been any approved that, after their approval, have proven a detriment to the community in which it occurred or to the State or to the Government?

Mr. WELLS. There has been a considerable number of them that have been guilty of practices that I would consider improper.

Mr. RAKER. Well, improper in what way?

Mr. WELLS. Improper because they were just public-utility power schemes masquerading as power schemes for mining purposes, with the intent to subject everybody in that region to their will as to the necessities of life.

Mr. RAKER. There have not been many permits granted of that character, have there?

Mr. WELLS. So far as I know, we did not let any get by that looked that way. Of course some of them may have fooled us.

Mr. RAKER. How could any injustice have been done to the public, if, within the State where these parties applied, there was a public-utilities commission that regulated the entire business of this company, fixed the price that they should charge and regulated it fully and carefully?

Mr. WELLS. I have given my views on that whole subject, Judge. I do not think I can improve on them now.

Mr. RAKER. I did not hear that.

Mr. WELLS. If you want this bill at all, then you want to prevent the thing I am talking about. If you do not want this bill at all, you need not bother about it.

Mr. RAKER. Now, that does not answer my question. It is not what a man wants or does not want, but when we are legislating and

wiping out a status of laws that has built up a country, a great part of which was brought into life and was made to exist by virtue of the right to take water from the streams and build reservoirs and dams and ditches and turn the once barren waste into a garden, and take out the mineral that is in the earth, which was of no value to anybody, and have it wiped out without any reason—of course I want to know the reason for it, and of course it is my duty. I could not be faithful to this Congress or to this duty if I did not get the reason, and I was asking if under the facts as presented and the case as illustrated, where there is an efficient public-service commission and the right had been granted as you suggested, there could be any detriment to the State, to the Government, or to the consumers from that plant, if properly regulated?

Mr. WELLS. Yes, sir; I think so.

Mr. RAKER. How?

Mr. WELLS. As I have explained in answer to previous questions, and as Mr. Fisher has explained here, and as the Commissioner of Corporations has explained in a very full report on the subject, there are certain conditions under which regulation can not adequately protect the consumer.

Mr. RAKER. How? Our commission in California say they protect the public; they say they can protect the public, and they say they do protect the public. Now, if that is the case, how could a corporation or an individual having an electric plant thoroughly under the supervision of a State commission to regulate it do an injustice to the consumers?

Mr. WELLS. I think I will have to refer back to my answer to that question, especially my illustration of the power plant that cost $200 to develop in competition with the power plant that cost $300 to develop. I can not add anything more.

Mr. RAKER. Mr. Chairman, I do not want to hold the committee, but I would like to get before the committee what Mr. Wells means in regard to that $200 and $300 proposition. It is very important to me.

The CHAIRMAN. We spent about 30 minutes on that a while ago. I think we had better take our recess at this point.

(At 1.20 o'clock p. m the committee took a recess to 2.30 p. m.)

AFTER RECESS.

The committee reassembled at the expiration of the recess.

STATEMENT OF MR. JOHN H. FINNEY OF WASHINGTON D. C.

Mr. FINNEY. Mr. Chairman and gentlemen: I am a member of the public policy committee of the American Institute of Electrical Engineers, and I am on their board of governors for the next three years, and in business I am the southern manager of the Aluminum Co. of America, in charge of their Washington office.

I appear here as a member of the public policy committee, and necessarily am confined in this discussion to questions of engineering. But in my proper person I may, perhaps, be able to answer any questions that the members of the committee see fit to ask me.

The American Institute of Electrical Engineers is the National Society of Electrical Engineers dealing with electricity from its scientific and professional side.

The institute is noncommercial, nonpolitical, and nonpartisan, and is not composed of constitutional lawyers, it might be said. [Laughter.]

The views which it has presented through the two members who have already spoken, Mr. Townley and Mr. Stillwell, and those which will be presented through what I am about to say, are views embodying sound engineering and sound economics, and such as are shared by electrical engineers in general, and may be considered therefore as representative and out of the field of controversy.

Falling water, whether on a navigable stream or on streams in the national forests and other public lands, is not power. It is potential power only, or opportunity. When developed electrically and used locally, or when transmitted over the wide areas now permitted by advances in the electrical art, it is only in part a convenient public utility. It is, to a much greater degree, a national necessity, absolutely demanded by the Nation, East, West, North, and South, for its agriculaural and industrial growth.

The nondevelopment of this power results, not only in unnecessary and preventable waste of the nonrenewable fuel which water power could replace, but prevents the establishment of industrial and agricultural activities that yearly would result in great economic losses to the Nation.

I have said that falling water is not power. For untold centuries Niagara Falls has been thundering its mighty song, but through all the years of doing so, until it was electrically developed, Niagara Falls had performed not a single useful act, and it is one of the great water powers of the world. Not until harnessed does water do useful work, and this harnessing depends on three primary and self-evident facts.

First, that the opportunity for development existing in falling water, if effective head can be had through artificial works such as dams, flumes, etc., and this is the engineers' job;

Second, the investment of large sums of money, in the hope and expectation of gain. This is the financial man's and the investor's job; and

Third, a profitable market for the product. This is a job of the management, working under the law of supply and demand.

Take away any of these essential elements, and you have no water power now, or ever. It remains water running to waste. We have in opportunity probably not less than 30,000,000 potential horsepower in the streams of the United States, about as much as in use in all forms of power in the Nation to-day, under conditions that fulfill the primary facts which I have just named. The development of this amount of water power would require from nine to ten billions of dollars—that is, ten thousand millions of dollars—and which would require, at the rate heretofore holding in the business, about 100 years to complete and put in service, and would render a service that would be capable of serving a population double our present population.

This is a man's job. When we realize that these figures are minimum figures, and that we probably have double this amount of

power that will, at some distant date, be put to work, requiring double the investment, and that we can not, either by legislation or duress, compel the investment of a single dollar in the business—I will venture to say that there is not a man in this room who would invest, under present conditions, a single dollar on a western project attempted under the present bill or anything like it; I will venture to say that the people who have the most unearned increment, who have appeared before the committee, have not a dollar so invested. The man who has, perhaps, most of the unearned increment who has appeared before the committee has not a dollar invested, and would not invest a dollar under the present unstable conditions.

Let me very briefly recite what a hydroelectric system is.

Mr. CHURCH. Who is responsible for this vicious water power law that we have at the present time and that everybody is denouncing?

Mr. RAKER. They do not all denounce it.

Mr. FINNEY. Well, it can not be fixed, with respect to responsibility; it has grown up because we have not had any applicable law on the subject, and can not get it. My criticism is not against the Agricultural Department and the Forest Service.

Mr. CHURCH. I was not assuming that it was; but everybody denounces the law, and I was wondering who was responsible for it.

Mr. FINNEY. It has been because we have not had any satisfactory laws.

Mr. KENT. Excuse me, but the chairman and I did not understand whether you meant the present law, when you said nobody would invest in it?

Mr. FINNEY. I meant the proposed law.

Let me recite what a hydroelectric system is—and this is important, because I do not think many people really realize the start and the growth and the importance of a hydroelectric system as a whole. What most people have in mind is a single separate entity that can be started, can serve, say, 10,000 horsepower capacity, and at the end of a predetermined time stop, without much harm to anybody resulting.

I have here [indicating] a map of the Southern Power Co. system in North and South Carolina. This is North Carolina [indicating]; this is the Virginia State line [indicating]; this is South Carolina through here [indicating]; this is Georgia [indicating].

Starting in 1903 the Catawba Power Co. started a little development of water power at Catawba of a 10,000 horsepower unit. They were several years in building it, and the cost exceeded very largely the engineering estimate. But they finally completed it. It was designed to serve Charlotte, N. C., with 10,000 electric horsepower. It went into the hands of a stronger financial organization as a part of a system now named the Southern Power Co. That company, by the expenditure of large amounts of money, developed next the Great Falls, 32,000 horsepower. It next developed the Rocky Creek, 32.000 horsepower.

Mr. RAKER. What was the amount of the first?

Mr. FINNEY. Ten thousand horsepower.

Mr. RAKER. What was the next?

Mr. FINNEY. Thirty-two thousand horsepower at Great Falls and 32,000 horsepower at Rocky Creek. It next developed a 32,000 horsepower at Ninety-Nine Island.

In the meantime it had extended its lines and high-tension wires almost completely over the State of South Carolina, and extending north into North Carolina, almost as far west as Raleigh. In addition to that, because of failures of water power, or low-water periods during certain seasons of the year, and as the cotton-mill load demanded continuous power at all times of the year, the company found that it must protect itself by installing steam plants as a necessary part of the service that it must give to its customers. So that they built a 10,000 horsepower steam plant at this end of the system [indicating], a 10,000 horsepower steam plant at the center, and a 10,000 horsepower system at the far end of the system. They have, therefore, four electrical water-power plants and three steam plants serving three States, and perhaps developing from 150,000 to 160,000 horsepower.

Beginning with this small investment of $1,000,000 at Catawba, it has now an actual investment of $18,000,000 or $20,000,000 and it still grows; it must grow.

Starting with a voltage of 10,000 volts, which in 1903 was reasonably high, to-day it is operating at 110,000 volts, and the limit of high potential has been about reached, when we consider that some one of the California projects is operating at 150,000 volts; there is a distinct limitation to the voltage or potential you can use, which prohibits the extension of the system over much wider areas than are now common in California.

Just note that that $1,000,000 investment 11 years ago has grown into an $18,000,000 investment to-day, and it will be $18,000,000 more in the next 10 years if it keeps up with the growing demands of a community that must be served by this public-service corporation.

Now, in addition to that, they tied in with this company operating here [indicating on map], so that in case of low water on this project this other company feeds to it, and in case of low water on this project [indicating on map] this feeds back into the Southern Power Co.'s system [indicating] as a connected whole.

Power generated may at some time and during some periods of the day be delivered here [indicating on map] three or four hundred miles away, at Greenville, S. C.

Mr. RAKER. That is by another company, too, is it not?

Mr. FINNEY. That is by another company; yes. They have tied up also with the Georgia Power Co., operating at Tallulah Falls, and feeding into Atlanta, Ga. So that they can get from them 15,000 or 20,000 horsepower when they have short water power [indicating], and vice versa.

Therefore it can be seen that the physical combination of plants owned by one corporation is a very desirable thing and the physical combination of plants owned by different corporations is an equally desirable thing, and I can conceive of a plan within your lifetime and mine, Judge Raker, when the whole of the United States will be covered by a network of wires in which every company has, to some extent at least, joined with every other company in the field.

Mr. RAKER. That joining on of companies and the adding of power from one company to the other which you have illustrated, can that be

done to the lines of the companies which you have marked in red on that map [indicating] at an economical cost to the consumer and all concerned by just joining on your wires to those of the other company?

Mr. FINNEY. Yes; at an economical cost to the consumer, because what the consumer wants is continuity of service, rather than power, at 3, 3½, or 4 cents. I might say this in reference to power: We are talking about cheap electric power. Electric power is only relatively cheap. There are some water powers in the United States that are dearer and actually more expensive than some steam plants in the United States.

Mr. SINNOTT. What has been the cost per horsepower on this plant?

Mr. FINNEY. The investment cost, do you mean?

Mr. SINNOTT. I do not know the difference between the investment cost and the entire cost.

Mr. FINNEY. Do you mean the rate charged to the consumers?

Mr. SINNOTT. No; the cost of producing the horsepower.

Mr. RAKER. On an average.

Mr. FINNEY. There are so many elements that enter into that that it is not——

Mr. SINNOTT. I have seen it stated that horsepower has been developed for $9 per horsepower. That, I understand, is the original cost.

Mr. FINNEY. No; that is not the original cost. If I may go a little bit further, I will lay the foundation for an answer to that question.

A water power may cost anywhere from $60 to $200, say, per horsepower of installed capacity. You have a water plant that is capable of generating 10,000 horsepower. Your cost for dams, flumes, water wheels, generators, transmission lines, substations, and distribution lines may run $200 for each of the 10,000 horsepower of capacity that you have, or a $2,000,000 investment for the water power.

Now, that $2,000,000 carries certain fixed charges. You certainly can not get money in the water-power business under 6 per cent; so that $2,000,000 represents $12 per horsepower as carrying charge for it as investment charge, or as return to capital for money borrowed to build the plant. In addition, there are of course transmission losses, because those all have to figure in. There are the operating expenses; there is the depreciation charge, the amortization charge, and all that sort of thing, that would bring the cost of that horsepower up to a point where it might not be able to compete with an efficient steam plant using coal.

Now all of these companies that I mentioned, the Georgia Power Co., the Southern Power Co., the North Carolina Electric Power Co., and the Pennsylvania Power Co. operating on the Susquehanna River—they are all on nonnavigable streams.

Mr. SINNOTT. I would like to explain my question. I do not assume to know very much about it. I am reading from a report of our State engineer, in which he says:

> The United States Consul Norton, states that in Sweden the cost per annual horsepower developed by hydro-electrical plants is apt to arrange above $13.40. In Norway, the rates vary usually between $5.40 and $10.70; and there are some cases where the cost is as low as $4.

I do not understand just what that means.

Mr. FINNEY. That is the price this company charges for horsepower per annum, delivered at its buss bars.

Mr. SINNOTT. To the user?

Mr. FINNEY. Yes, to the user.

Mr. SINNOTT. What is your cost?

Mr. FINNEY. The cost, in the case of the Southern Power Co., I would give as $20 or $22, and perhaps $22.50 per horsepower per year. But it is very easy to point out just where that difference exists. If in the United States we have an investment of $200 per horsepower of installed capacity, we can see at once if we borrow money to build this plant with, we have an overhead charge for capital of $12 per year per horsepower—$200 per horsepower capital; and if you borrow money at 6 per cent, you have got a $12 charge per annum per horsepower there for your money.

Mr. SINNOTT. That is, it cost you $200, and you have to borrow the money to build the plant?

Mr. FINNEY. Yes, it cost $200, which at 6 per cent would be $12 a year, as investment charge for the cost of building the plant. Then, in addition to that, we have all the other overhead charges for the maintenance of the plant; so that it could well be possible in such a plant, for power to actually cost the company, either at the switchboard or at its distribution line, a price that would be higher than steam-generated power.

In Norway there are exceptional conditions. Norway has very high heads; it has large storage lakes. The higher the head, of course the smaller the volume of water that you have to use for a given output of energy. Heads of 2,000 feet are not uncommon in Norway, located right on the shores of the deep waters of the Norwegian shore line.

Mr. SINNOTT. He further states this:

> To produce power by steam costs from $40 to $180 per horsepower per annum, depending upon the size of the plant, with coal at $4 per ton.

Mr. FINNEY. Well, there is no such cost in the United States, with coal at $4 a ton. There is no such cost, even in the smallest power development you could cite.

Mr. KENT. Is it your opinion that the average cost of installation per horsepower would be over $200?

Mr. FINNEY. No; I think it would be under $200, but I think an average installation charge would not be far from $150 in the United States. We have very low heads and very large volumes of water to deal with and control, and our construction work, our dams, etc., must be of enormous size and enormously expensive when compared with the small diverting dams which the high heads usually permit. Then we have abnormal floods here. We have practically no system of storm-water control in the United States. You take the company building the dam at Chattanooga, at Hales Bar on the Tennessee River. It had to provide for flood waters 56 feet above the level of thte dam at high-water periods. It had not only to provide for that and build a structure that would stand that, but it had to put in three-stage turbines, so that the high water would not absolutely drown them out and prevent them from developing any power at all in times of high water. They have three stages there, so that when water gets very high they can use the top turbine; when it gets lower they can use the middle turbine, and so on.

Mr. RAKER. If they did not have this flood water from their watershed, they would be very much better off?

Mr. FINNEY. If they did not have this flood water, they would have an even flow. Chattanooga is a striking example of a case where water power is not a bonanza. It has taken eight or nine years to build the Chattanooga plant. It has cost them somewhere around $9,000,000, where the original estimate was $3,000,000, and they come now to the point where they have a completed plant, which they have finally finished, and they find no market for the power. The Chattanooga market is absolutely preempted by another company whose power comes from another stream, and it has absolutely the entire market.

Now, I want to continue, if I may, with these streams in the East to which I have referred. They are all on nonavigable streams, or the bulk of them are. They are all unrestricted, except as they may be controlled by public-service commissions. They are unrestricted as to development, at least, but nearly, if not all of them, are strictly regulated in respect to their rates and service. They all effectively serve the public. They are all anxious to get business in their respective localities. They are all law-abiding, self-respecting corporations, trying to make (and in many cases not making it) a decent showing of profit as one function; but as quite as important a function, they are all seeking to upbuild and make prosperous the communities they serve, because the communities they serve are absolutely the communities from which they make their living, and they must serve them; they must upbuild them, if they are to make any profit.

Properly considered, hydroelectric development must be classed in importance, in utility, and in value with, if indeed, not put ahead of, the country's transportation systems, its community water-supply system, its interurban and urban railways, its communication systems of telegraph and telephone—all of these are great public utilities, it is true, but they are even more great national upbuilders and necessities, growing as the Nation grows, and designed to serve for all time the varied needs and demands of the Nation.

Present civilization demands all of these things at the hands of some agency of operation. Whether that agency be national, State, or municipal, or private capital, these enterprises will always live.

Consider briefly the fundamental fact underlying water-power development:

Of the 35,000,000 horsepower in our streams, some 6,000.000 horsepower has been developed in 24 years, since 1890, when alternating-current development began to create the transmission art. Niagara Falls, the best known water power on earth, was put to work in about 1893, and a substantial amount of the power developed there and available for use still remains unsold. This is cited to show the very slow upbuilding of the power market even under the most favorable conditions—and certainly the most favorable conditions in this country exist at Niagara Falls.

Mr. RAKER. What do you mean by saying that only a part of the developed energy at Niagara Falls has been used?

Mr. FINNEY. I mean they still have power to sell at Niagara Falls.

Mr. RAKER. What proportion of it has been used?

Mr. FINNEY. I mean to say that of the 750,000 horsepower that they have the legal right to develop a substantial part of that 750,000

horsepower has not been sold; they can not develop the whole power of the stream, you see.

Mr. RAKER. Because they do not want to develop it?

Mr. FINNEY. No; it is because they have not got the market for it, because the industries have never come to take the power, and because the transmitted commodity, the field served by the transmitted commodity, will not absorb the extra amount of power.

Mr. RAKER. Suppose they were compelled, within a reasonable time—say a year or a year and a half—to develop 750,000 horsepower; would it be an advantage to the community to have them do it?

Mr. FINNEY. No; it would be a waste of money; you would be tying up a large amount of money from which no returns could be expected.

Mr. RAKER. There would be no use for it?

Mr. FINNEY. No; there would be no use for it.

Mr. CHURCH. This may be foreign to the subject under discussion, but I have a curiosity to learn about it: What is the horsepower capacity of Niagara Falls? Have you any idea what it is?

Mr. FINNEY. About 3,000,000 or 3,500,000 horsepower. But about 750,000 horsepower is to be the ultimate development, because no one can get any further right to develop the water power. But there will come a time when the total flow of Niagara will be used for power, I believe.

Mr. RAKER. How much horsepower has been developed at Niagara Falls up to the present time?

Mr. FINNEY. I should say there is close to 500,000 horsepower, on both the Canadian and the United States sides.

This slow upbuilding of the power market is a real problem, which nearly all hydroelectric developments face in all parts of the Nation, already served and usually well served by efficient, well designed, and economical steam plants. Twenty-seven millions horsepower in steam is used in the Nation—to displace this or other fuel—generated power with electric power is wholly impossible perhaps for centuries.

The popular conception that water powers yield excessive, disproportionate profits is wholly wrong—the conception springs from the idea that the water is itself the power, costing nothing, and that the expenses of operation are nominal, while the operating income is large.

When it is realized that the investment is very large and is not confined to the dams and powerhouses; that the distribution system represents in many hydroelectric developments the larger part of the total investment, and that this total investment is from four to six times that required for a steam plant of equal size, one can see that the return to capital invested in the more expensive hydroelectric development is an expense comparable in amount with and can readily exceed the cost of coal in a steam station. This return to capital is not profit, and without the prospect of it capital can not be secured.

A man who borrows money at 6 per cent and who takes the 6 per cent and turns it over to the man from whom he got his money has made not a penny on the transaction. Return to capital can be rightly considered as profit.

And, as I have said, without the prospect of that return capital can not be secured.

It is stated that increased capital required in hydroelectric development can readily exceed the cost of coal in a steam plant. This is true because of the greatly increased efficiencies possible in modern boilers, turbogenerators, etc., and is true in spite of the fact that coal is slowly rising in price, for the art of producing power from steam is progressing at a rate so much more rapid than that at which the price of coal is rising that the cost of steam-produced power is continually falling.

It is equally true in respect to oil and gas engines, which are to-day such efficient producers of power as to present a most serious menace to transmitted hydroelectrical energy.

In no business do the risks and hazards appear more formidable. During construction the works are constantly subject to serious damage by abnormal floods.

If I may, I will pass around to the members of the committee some pictures of the completed hydroelectric plants in the South that I have just been talking about (handing around pictures).

One can readily grasp the enormous hazard that the building of such a plant presents during the course of two or three years, in a given stream.

The hazards are not confined mainly to floods. There may be faulty bottoms for the dams, whereby cost may be very materially increased beyond the original expectations and financing.

When once the plant is completed there remains perpetually the menace of uncontrollable floods, of lightning, sleet, and wind, in addition to the risk which a failure in developing a market for power involves to an enterprise which can not be moved and which in many cases must seek through the industrial development of the surrounding territory a market for its product, and this product a commodity the production of which is also the act of sale.

You connect up a load to a hydroelectric station, and the mere act of generation of your power is the act of selling. You do not store a single particle of energy at any time. Your plant grinds out just what is demanded, and the meter registers just that demand and no more.

The present view held by most people—and by legislators, in my opinion—is that the present desire, in formulating a policy, is to accomplish the following results: First, to prevent rights in perpetuity; second, to prevent monopolization; and third, to insure fair rates and good service to the consumers.

With all of these things I am, in common with all enlightened people, in complete accord. The solution is not difficult, if we can get down to fundamental principles—because I do not believe that any one now believes in rights in perpetuity. I would be the last man to stand here and argue for it.

No sensible man considers or fears the possibility of monopolization of water power, other than its natural monopolistic feature, if under regulation; and no sound thinking man can maintain that unfair rates or monopolization are possible where the corporation is regulated by an efficient public service commission as to service,

rates, and earnings and where it almost invariably meets with the competition of steam and other fuel-generated power.

The phase of the problem in which the indiscriminate use of water power as a public utility is being considered is, to my mind, the small and relatively unimportant portion of water-power development, for it deals almost wholly with a retail use of power, in all of which cases it must either compete directly with steam or other fuel-generated electrical energy or depend largely for satisfactory service upon such auxiliary steam or other fuel power generated at the point of distribution. Let me cite a concrete case, universally applicable: In the public utilities of Washington we have:

First. The water supply, conducted by the District. Washington will always require water and some agency for supplying it. This agency will always have to be supplying new money for extensions, and to the end of time this is true.

Second. Washington has a gas plant. It is quite safe to say that Washington could not do without gas, for present civilization demands it, and either in the hands of the present owners of the plant or its successors gas will always be furnished, and the furnishing of it will require extensions and new money from year to year.

Third. Electric power and lights and railway service are furnished by still another corporation. Washington will always need electric lights, electric power, and street-car service, and either in the hands of the present owners of these utilities or in the hands of their successors, this service must be given and new money must be put into it from year to year and from day to day in order to keep up with the growing demands of the community. All of these utilities efficiently regulated by the public-service commission of the District would mean efficient service at fair rates for all time.

Now, suppose the electric plant here wanted to utilize the water power at Great Falls, which they own I am told. If the project is commercially feasible the company would raise the several millions of dollars required to build a plant, build its transmission lines, and utilize the water power there generated as a part of its existing system. If there is enough water power so generated to take care of the power demands in Washington its present steam plants could be shut down in whole or in part, thus saving fuel, and used mainly as a necessary standby in case of failure of the water power or of the transmission lines.

The mere fact that the company has water power as a part of its system does not change the character of the enterprise as a public utility, does not in the least prevent effective rate regulation, does not mean that the company or the community expects to put the water-power plant at Great Falls would continue to operate so long time whether that period is 50 years or more, because in some hands, whether it be in the Washington company or some other agency, this water-power plant at Great Falls would continue to operate so long as there is any water available for the generation of power, and so long as it remains a commercially profitable proposition. It is this sort of enterprise that has been held in mind by nearly every legislator dealing with water power, but the fact must not be forgotten that nearly every legislator has also had in mind a plant which

could be discontinued at the end of an agreed period, when the facts are, that it could not be so discontinued without disaster to the community which it serves, and which no community would be likely to permit.

I desire to call particular attention to a phase of the problem which has had practically no consideration by legislators, and this is what might be termed the "discriminate" use of water power, in which the comments that have been made previously in this statement apply with all the greater truth and force, for, as I see it, this discriminate use covers, perhaps, as much as 75 per cent of the available water power of the Nation, this percentage being a careful estimate of the power in navigable streams and on the public domain so remote from centers of civilization that it is not, and perhaps will not be for hundreds of years, of any large value as a transmitted commodity.

I say that 150,000 volts is perhaps the limit of voltage that can be used for electrical transmission. When we realize that this potential is carried on structures like that [indicating] on aluminum or copper wires, over territory like that [indicating] for two or three hundred miles at a cost of perhaps $20,000 a mile for transmission lines and structures, and that with 150,000 volts we have almost reached the limit of the dielectric strength of air, I think we are justified in saying that 150,000 volts is the limit of voltage that can be used. Above that potential air breaks down. It is not any longer an insulator, and the electricity will discharge from one wire to the other, or from the wire to the ground.

Mr. RAKER. You say that this system of which you have presented the picture here cost about $20,000 per mile?

Mr. FINNEY. Yes; about $20,000 per mile of line.

Mr. RAKER. It carries how much voltage?

Mr. FINNEY. It carries 135,000 volts, and was designed for 150,000.

Mr. RAKER. And that is about the limit?

Mr. FINNEY. One hundred and fifty thousand volts, I should say, would be the limit of possible potential that could be used for——

Mr. RAKER. What is the highest carried in any place in the world?

Mr. FINNEY. The Big Creek development in California is designed for 150,000 volts, and is now operating at 135,000; that is the highest in the world. At lower voltages we would find the cost of wire to be so high that it would be prohibitive. So we get into these high potentials, not only to cut down the cost of material composing the transmission lines, but also we cover wider areas; and I say that the limit has about been reached. No matter how much additional expense you go to, you could not use a much higher potential than 150,000 volts.

And if we should take a radius of 150 to 200 miles from a given water power it would seem that we might be able to serve the community within this circle efficiently and fairly satisfactorily, but in all cases not as effectively and in many cases not so cheaply as the same community could be served by local steam plants generating electricity at the point of distribution.

I designated this large amount of remote water power as a source for national industrial upbuilding, and to make my point clear this upbuilding is, in my mind, subdivided into three general classes:

First, irrigation of arid lands and dewatering of swamp lands. It is, of course, well known that the previously employed gravity system for irrigation of arid lands has about reached the limit of possible use and that future irrigation of arid lands in the West depends upon transmitted electricity or other power for pumping purposes. It is the highest use to which power can be put, in my opinion.

And of course it is going to assume much importance in connection with the dewatering of the swamp lands of this section of the country [indicating].

Second, the electrification of steam roads. The time will come within perhaps a few years when the great arteries of transportation throughout the United States must be electrified and where a very large amount of remote water power of the character above designated could be effectively used, particularly in the mountain regions of the West.

Third, and of great importance, is industrial manufacturing development, depending on cheap power and only possible when cheap power is available, such as the fixation of nitrogen, the refining of metals, the making of steel, the creation of the electro-chemical industry, all of these being, comparatively speaking, just in their infancy. While all these discriminate uses have certain things in common, I should like to dwell upon them a little in detail.

The demand for power in irrigation and dewatering absolutely hinges upon the clear and reasonable provision of perpetual service. No one in the Nation expects to create or permit a condition of purposely making at the end of 50 years or a similar period a desert out of a prosperous agricultural community, so that the putting of water on arid lands and the upbuilding of a prosperous agricultural community because of it must mean that the agency used for pumping water must have perpetual activity.

The right to water must run with the land. This is clearly recognized in existing law.

The electrification of steam railroads is in the same category. The railroad is a utility which will always live because national life depends on it. It can not face the enormous expense of a change in motive power unless this change carries with it the assurance of ability to obtain electric power at the hands of a reliable agency for all time.

You could not expect the investment of an amount of money, perhaps quite equal to what the railroads have invested to-day, in new form of motive power when, at the end of 50 years, somebody would have the right to say: "This must stop; you must change back to steam locomotives." They can not take that chance.

Now, all of these things are also true when we consider the use of electric power for the third class, namely, the industrial use of electrically developed water power which utilizes a water power, just as it would build and utilize a boiler house as a part of a manufacturing business, which presumably will always continue if its product is one that civilization demands, as in the case with nitrogen, say.

But a still further condition in respect to these projects is true and important, because this industrial development, such as nitrogen, demands cheap power and locates itself where power is cheapest. It can only be created by cheap power, and for this class of business the water powers of the United States face sharp competition with water

powers anywhere in the world. It is obvious that unnecessary restrictions, whether they be in the form of limited tenure, charges for grants, or other unnecessary limitations and regulations, simply act to drive away from the United States users of water power now going to waste, which enterprses would be welcomed with open arms were they to offer to locate in the United States and use coal for their power.

They would be rightly welcomed too because they are great national upbuilders, creators of new products, or by new methods making old products at radical reductions in cost.

The CHAIRMAN. Do you think that because we want those industries to come here, that we ought to give them a perpetual grant?

Mr. FINNEY. Please let me finish, Mr. Chairman. Of course I have said in advance that I do not believe in granting rights in perpetuity.

The CHAIRMAN. I thought you were complaining just now about a 50-year tenure?

Mr. FINNEY. I am. But I will make a point later on that that will perhaps appeal to you.

The CHAIRMAN. All right; you may proceed.

Mr. FINNEY. Such an enterprise as this must have power, if not in perpetuity, at least for a term of years that will justify a great industrial establishment in which the development of the power itself is but a fraction of the investment required, coupled as it is with the upbuilding of industrial cities with all their varied activities in turn dependent upon the industry. But why should they ever die? Under what conditions can we reasonably assume that the making of steel by electricity is something that will be later frowned upon or that the manufacture of the valuable electro-chemical and electro-metallurgical products shall suddenly stop because they are undesirable things? Is it not wholly reasonable to suppose that they will grow in importance and in value and in desirability as the Nation grows?

This is not a plea for grants in perpetuity, but use in perpetuity, and grants in perpetuity are radically different things. I can not believe that it is beyond our power to promptly provide a means for the former without necessarily creating the latter, for there is no reason why the agency of operation can not change whenever the Nation itself thinks it is desirable to change it, under conditions that are only conditioned upon fairness to industry and capital.

Nor is it a plea for monopoly.

We have heard it said time and again here that water power is a natural monopoly. It is just like the telephone. There is no reason in the world why we should have two companies trying to do the same thing. It is a tax on the people, and an unnecessary tax on the people. A regulated monopoly is the solution of the problem.

But if all the water powers of the United States were devoted to useful work widely diversified, both as to kind and location, the question of monopoly of water power may not be seriously considered.

Nor is unrestricted or unregulated use of water desirable—it may be that changes in national life and operation in the decades that are before the Nation may demand national ownership and operation of

all water powers. When that time comes the remedy lies in the Nation's hands as and in the same manner it would acquire other property it needs—by purchase. Until that time comes, it is surely national wisdom to encourage by every legitimate means every legitimate use thereof, on the basis of utmost liberality to capital, under such terms as will not permanently discourage the investment in this hazardous field of industry of the billions of dollars required for development.

Legislation on this subject to be effective must be based on sound economics and sound engineering.

It must be based on stability and on security to capital; on fairness and good faith between the sovereign and the grantee; and last but not least, on justice to the community or a section of country to be served; because, after all, it is the community's loss, and only in part the Nation's loss, that this tremendous economic waste really most seriously affects.

Now, what I have said covers, I believe, absolutely fundamental principles and sound engineering. I have performed my duty to the institute, and the institute very cordially welcomes an opportunity of putting these fundamentals before the committee; because I quite agree with the chairman that it is the largest problem which we have to settle. The tariff, the currency, everything else, fades into insignificance beside it. I do not apprehend that what you are going to do here is the final word on this matter; but I do believe that until we recognize the three factors that make up the water-power problem, that the Nation only contributes a part of it and a very small part of it, and that the balance of it is money and brains, and that the less we talk about "unearned increment" and charges and tenure and Federal or State rights, and the little irritating factors, the quicker we are going to get a policy that will last, and a policy that will permit development. If the institute has contributed to bring about anything of that kind, we will feel very much gratified.

I will now be very glad to answer any questions in my own proper person.

The CHAIRMAN. I was going to ask you two or three questions about the salient points in the bill. Have you one of these bills before you (H. R. 14893)?

Mr. FINNEY. I have not.

The CHAIRMAN. Well, suppose you take a copy of the bill, and we will follow it through, section by section, in a hurried way, and see just what your views are. You have heard it discussed here in the committee, of course.

Mr. FINNEY. Yes; I have heard it discussed.

The CHAIRMAN. Yes; you know what the salient points of the bill are pretty well?

Mr. FINNEY. Yes, sir.

The CHAIRMAN. Would you make it mandatory upon the Secretary of the Interior to grant a lease, without leaving any discretion in the Secretary as to whether he should do so?

Mr. FINNEY. That is a hard question to answer. I should say that if we knew that the Secretary of the Interior was always going to be Mr. Lane—"No." I do think it would be wise, unless we are going to turn over a tremendous amount of responsibility to an executive officer, to put a direction in the bill as to what he is going to do.

The CHAIRMAN. There would be numerous cases of hardship if that were done, would there not, as a result of mandatory provisions of that sort?

Mr. FINNEY. I can see none there except from a possible conflict between users of water.

The CHAIRMAN. That is where it would come in.

Mr. FINNEY. What I have in mind is that this bill compels a man to go to the State and bargain with the public-service commission of that State, and that the State could determine what was the most beneficial use of the water in that particular case.

The CHAIRMAN. But they would not have anything to do with the use of the dam site on public lands?

Mr. FINNEY. Well, do not let us get confused. Do not let us consider this dam site as a part separate and distinct from the water. The whole thing is a complete entity, Mr. Chairman, and I think that one of the real misconceptions, or some of the misconceptions, that grow out of this is the failure to consider this thing from a broad standpoint of a system that is a public-service system; that is, furnishing a public utility. You can not say—or you ought not to say—that this little plant here [indicating] stands by itself, because it does not; it is not much of a plant if it stands by itself.

The CHAIRMAN. I understand that, and so far as the physical combination is concerned there is no longer any controversy about that.

Mr. FINNEY. Oh, absolutely none.

The CHAIRMAN. But that ought to be distinguished from a combination for fixing the prices—raising the rates.

Mr. FINNEY. Well, of course, I do not stand for that any more than you do.

The CHAIRMAN. Passing over that, down to the question of tenure, do you think that the period ought to be unalterably fixed at 50 years?

Mr. FINNEY. Absolutely.

The CHAIRMAN. As distinguished from having a maximum and leaving it to the Secretary of the Interior in each case?

Mr. FINNEY. I think you should absolutely make it 50 years.

The CHAIRMAN. But at the beginning of your remarks you were complaining about making a limit of 50 years. What period do you think would be wholly adequate?

Mr. FINNEY. I do not think any fixed period would be wholly adequate. If there is one thing that has broken down in the United States it is this limited-term franchise idea. I do not know of anything more embarrassing or that has caused more real difficulty to a public utility than the ending of its franchise period. It is wholly wrong from any economic standpoint to expect a public service to be discontinued or to be turned over to some other agency or to end without any provision for turning it over to some other agency at the termination of a definite period, whether that be 50 or 100 years. I think that is wrong intrinsically.

The CHAIRMAN. Well, just a moment; we have not very much time. We will dwell on each of these provisions hurriedly. You have heard the statement as to the magnitude of the possible water-power development in the United States which would be available for industrial purposes and that only 3 per cent of it has so far been developed?

Mr. FINNEY. I question the accuracy of those figures, Mr. Chairman.

The CHAIRMAN. Well, what do you say it would amount to?

Mr. FINNEY. I should say that we probably will have a water-power development in the next 100 years of not more than 60,000,000 horsepower.

The CHAIRMAN. And there is 6,000,000 horsepower in existence now?

Mr. FINNEY. Yes.

The CHAIRMAN. Well, we have figures which state that only 3 per cent of it is in existence now.

Mr. FINNEY. Well, 6,000,000 horsepower is 3 per cent of 200,000,000.

The CHAIRMAN. Your estimate would be that in the next 100 years the highest possible amount to be developed would be how much?

Mr. FINNEY. Sixty million horsepower.

The CHAIRMAN. Sixty million horsepower and there is 6,000,000 in use now; so, according to your figures, only one-tenth of it has been developed?

Mr. FINNEY. That is true, as I see it.

The CHAIRMAN. Now, if you were a member of this committee, or a Member of Congress, would you feel like saddling upon the Nation a lease for water power, indeterminate in character, so that the Government could not recapture it or take it away from the lessees, turn it over, and relet it for the benefit of the public?

Mr. FINNEY. No, sir; I would not. I think the right of recapture ought to be in every bill.

The CHAIRMAN. Yes.

Mr. FINNEY. But I think that the right of recapture ought to be within reasonable bounds, for the public needs, the public necessities, and not for the purpose of turning over to some other lessee to do the same thing you are permitting the present lessee to do, unless the present lessee is misusing it.

The CHAIRMAN. Of course, it is inconceivable that the Government would ever want to take it away from one lessee and turn it over to another unless the first lessee was abusing the right.

Mr. FINNEY. Well, it is not inconceivable at all.

The CHAIRMAN. Why?

Mr. FINNEY. When we see the amount of rumpus that is being raised to-day about the Keokuk Dam, and what the Supreme Court did with the Chandler-Dunbar property, it is not inconceivable at all that we would get into very serious difficulty.

The CHAIRMAN. Those were not leases, were they?

Mr. FINNEY. One was a revocable lease; the other is, of course, a different thing.

The CHAIRMAN. Those were not leases where the rights of the parties were fixed and determined. There would be no revocable feature here unless for cause——

Mr. FINNEY (interposing). Well, I have no objection whatever to a bill that would give a fixed tenure of certainly not less than 50 years, because I do not believe that 50 years is any too long; I do not believe that 25 years is any too long for the upbuilding of the ordinary market. It takes a long time to build up the market. A man does not start in with a 10,000-horsepower plant and a 10,000-horse-

power load. He does not ordinarily begin that way. But I feel that the Government should have the right to recapture at the end of that period if it wanted to, for some public need or some municipal need, it may be. It may be that the Government itself wants to go into the water-power business at the end of 50 years.

The CHAIRMAN. Well, you would at least reserve in the Government the right to fix rates at that time; would you not want to reserve the rights to adjust rates at the end of 50 years?

Mr. FINNEY. I do not think so.

The CHAIRMAN. You do not think so? You would favor passing a bill fixing the rate now at a certain fixed sum and would allow that to run indefinitely?

Mr. FINNEY. Do you mean a charge for the water right?

The CHAIRMAN. The royalty; yes.

Mr. FINNEY. Oh, well, that is a different proposition; I thought you meant the rate to the consumers.

The CHAIRMAN. No.

Mr. SINNOTT. Do you not think that the Government should fix the rate to the consumers now and hereafter—both?

Mr. FINNEY. I think the public-service commissions in the various States can do that; I do not see how the Government could do it.

Mr. SINNOTT. You mean the United States Government itself could not?

Mr. FINNEY. Yes; the United States Government could not. I think the rates and the service ought to be supervised by State commisions.

The CHAIRMAN. Well, for instance, take the royalty; there has been something said here in the record by some of the witnesses to the effect that we ought to put this 25 cents a horsepower and leave it that way.

Mr. FINNEY. Other countries do it and find it a satisfactory solution of the question—Norway, for example.

The CHAIRMAN. But they do not make indeterminate grants or indeterminate leases, do they?

Mr. FINNEY. They make much longer leases than 50 years. They make grants in perpetuity—some of those countries; Norway, for instance, has granted a certain company a grant of 300,000 horsepower in perpetuity.

The CHAIRMAN. Is that a recent grant?

Mr. FINNEY. That is a recent grant. Then, I think, they charge so much per horsepower for 200,000 or 300,000 horsepower additional. But, as I understand it, that company has 300,000 horsepower granted to them in pepetuity. And, as I understand it, in Canada, where there is 1,000,000 horsepower to be developed at one site, the company building it is doing so under a title in fee, and the Canadian Government gets nothing for it as rentals.

The CHAIRMAN. What I am trying to get at is, would you, or would you not reserve the right in the Federal Government to fix the conditions at the end of the 50-year period, under which either that lessee shall take or any other lessee shall take the rights?

Mr. FINNEY. That is, the right to recapture, do you mean?

The CHAIRMAN. Well, you might call it that.

Mr. FINNEY. Is that not what it is intended to be?

The CHAIRMAN. Not the way I put it; I do not think so. My question was, Would you or would you not reserve in the Federal Government the right to make new conditions, new terms, a new lease, new rates, and everything new at the end of every 50 years?

Mr. FINNEY. No; I would not, Mr. Chairman, because if the concern is operated under public service commission regulation for 50 years, what condition is going to happen at the end of 49 years that is going to make a new rate or a new lease with different conditions necessary.

The CHAIRMAN. Well, you might say, with what propriety can the committee, without making a grant which is in effect perpetuity, not reserve the right to do that?

Mr. FINNEY. That is substantially true. But I am talking about a perpetual use. I do not care about what agency operates the utilities; but at some hands these dams that are being built on the nonnavigable streams, and these dams that are being built on the navigable streams, or out on the public domain—they will always be there; there is no power in the world that is going to drive them away; they are serving a useful purpose, and that is just why I think people misapprehend the situation——

The CHAIRMAN (interposing). Well, the right to recapture, and the right to fix conditions, does not imply the right to stop the machinery. It merely gives the Government an opportunity to force the company to treat those who use the commodity furnished by them decently and properly.

Mr. FINNEY. Well, is not the company already under that restriction if it is regulated at the hands of the State public utilities commission?

The CHAIRMAN. Well, some of the States do not seem to have any, and in the case of some of the States, we do not know whether they have any or not.

Mr. FINNEY. Well, I would reserve that right to the Federal Government if the States are not doing it.

The CHAIRMAN. Some are doing it, and some are not.

Passing from that over to section 2, page 2, of the bill, what do you think about that limitation which prescribes that not more than 50 per centum of the output can be sold to any one concern?

Mr. FINNEY. I do not see the use of it at all, Mr. Chairman.

The CHAIRMAN. You do not think that is necessary?

Mr. FINNEY. I do not think that is necessary. I think that many of these projects could not be financed if you limited the use, in the first place. The mere fact that there is a sale for 50 per cent of the power to a certain concern, for example, may mean that the project can be financed and put into effect. Any man who wants to put in a hydroelectric station is looking for big users; he is looking for some users that can at least guarantee interest charges on his bonds or help largely toward it. I think that is intruding in business to an unwarranted extent and an unnecessary extent, because I do not see any possible benefit that could accrue from it. The delivery of 49 per cent to one man would be lawful under this provision, would it not.

The CHAIRMAN. Yes. Or, in the judgment of the Secretary of the Interior, the power company may sell it all to one party. But can you not see that there would be cases where little cities or municipali-

ties might suffer if a selfish water-power company were disposed to sell the entire commodity to some concern far removed and thereby absolutely destroy that local community; and have we not had the same thing practiced on us by railroad companies, to the destruction of local communities?

Mr. FINNEY. Well, I am not an authority on railroad rates.

The CHAIRMAN. Well, I will eliminate that part of the question, then; I am not an authority on them, either. But I have seen that done.

Mr. FINNEY. But we can see that a company that is being regulated by a State commission would either have to serve its community for all kinds of purposes, every proper demand for power, or get out of business.

The CHAIRMAN. Then, your answer to that question is that the local public-utility commission ought to handle that; is that your answer?

Mr. FINNEY. That is so; State regulation as to rate and service would govern that.

The CHAIRMAN. Very well. Passing to the last part of section 4 of the bill, what do you think of Mr. Pierce's suggestion, striking out lines 13 to 15, inclusive, which prohibits the sale and delivery of power to a distributing company except upon the written consent of the Secretary of the Interior, and to insert in lieu thereof the language he has suggested permitting mortgages?

Mr. FINNEY. I do not see how they could finance such a project without that provision.

The CHAIRMAN. Do you think there is any danger in putting that in—that the original taker might allow all the water power to get into the hands of one person through a fictitious mortgage arrangement? Is there a possibility of that, or do you care to express an opinion upon that point?

Mr. FINNEY. My answer to that is that, if that is done, it does not hurt anybody.

The CHAIRMAN. Your theory is that a monopoly of water power, under regulation, is a proper thing, I remember?

Mr. FINNEY. Yes sir; under regulation.

The CHAIRMAN. All right. We spoke a moment ago about section 5 of the bill, and I doubt whether we can accomplish anything by further debating it.

Passing now to page 4—at the bottom of page 4—I doubt if we can accomplish anything by discussing that further.

What do you think of giving the original lessee a preference right to take the lease at the end of the term, whether it be 50 years or otherwise?

Mr. FINNEY. I think he ought to have that.

The CHAIRMAN. You think he ought to have that?

Mr. FINNEY. I can not conceive, if a man has built up a property by satisfactory service to the community, why it should be taken away from him and given to some other lessee. I can see that the Government might want it itself; but to say that a going concern and a prosperous concern can be turned over to some other man, who will not do any better and probably will not do as well as the first man, there is no more reason for that than there is for taking any

other property away from him, even though paid for, and passing it over to someone else.

The CHAIRMAN. What do you think of that provision on page 5, section 7, of the bill?

Mr. FINNEY. As to contracts extending beyond the life of the lease?

The CHAIRMAN. Yes.

Mr. FINNEY. Well, that is intended to take care of a very serious condition.

The CHAIRMAN. No, that is not the one; the one on page 5, line 8; what do you think of Mr. Pierce's suggestion to that?

Mr. FINNEY. Providing for the approval by the public-service commission of such contracts?

The CHAIRMAN. Yes.

Mr. FINNEY. That is intended to cure a very serious condition. These western power projects absolutely are demanded by irrigation people. People want to irrigate lands, and no man would be justified in going out and taking up a section out there and putting water on it for a few years; he must be assured that the water right runs with his land, or he really does not make a home; he is just a tenant at the will and at the pleasure of some official, who may tell him to get off whenever he wants to by taking his water right away.

The CHAIRMAN. Have you had an opportunity to examine the bill as perfected and amended by Mr. Pierce?

Mr. FINNEY. Yes; I have.

The CHAIRMAN. Do you think the bill as amended would be workable?

Mr. FINNEY. I think it would be absolutely workable.

The CHAIRMAN. Do you think, as originally introduced, it would not be workable?

Mr. FINNEY. I think the bill as originally introduced, while intended to meet its title, it does not do it. It is entitled "A bill to provide for the development of water power," and so on.

Now, I do not believe that it would be possible under the bill as introduced to develop a single water-power project on the western lands. And I say that with all due deference to the Department of the Interior, the Secretary, and his subordinates, who are really trying to do something. They are really trying to cure the present unsatisfactory conditions. But the bill does not do it.

The CHAIRMAN. Let us get at that proposition more fully. You do recognize the necessity for some legislation, do you not?

Mr. FINNEY. Absolutely.

The CHAIRMAN. You think that the revocable permit plan, under the act of 1901, is very unsatisfactory, do you?

Mr. FINNEY. It is very unsatisfactory, to say the least.

The CHAIRMAN. And you think that under a proper bill great development could be had?

Mr. FINNEY. I do, sir; I think there is a very large amount of water power that could be developed with safety to every public interest.

The CHAIRMAN. Just in a word—what are the two or three things in that bill that would scare capital so that they would not take up the water-power project? That is in section 5, is it not?

Mr. FINNEY. Yes.

The CHAIRMAN. That is the worst one?

Mr. FINNEY. No; the first one, the power of making the leases, "Under general regulations to be fixed by him"—the Secretary of the Interior. I think that is just as bad as anything else, and perhaps worse than anything else in the bill.

The CHAIRMAN. Well, let us get at that and take it up where you leave it. If Secretary Lane and his associates fix up a set of regulations that are not workable, that are so onerous and so heavy handed that it will not be practicable to work under them, of course nobody will touch the thing, will they?

Mr. FINNEY. No.

The CHAIRMAN. Then will not that of necessity bring about a revision of those rules immediately, so far as the law will permit the Secretary of the Interior to revise them?

Mr. FINNEY. No; I do not think so. Have we not been working for some years past to try to bring about a revision of the law?

The CHAIRMAN. But you have no law on the subject now.

Mr. FINNEY. Well, we would not have any better law under this bill—I mean so far as it makes for development. A bill to provide for the development of water power ought to be liberal enough so that the development can be made.

Now, this committee is seriously trying to bring about development; so is the Secretary of the Interior. And yet the Secretary two years ago, or a year ago got out a set of regulations—and this is not a criticism of the Secretary—but he got out a set of regulations on the Pend Orielle proposition, which was advertised as a solution of the water-power question—and not a stroke of work has yet been done under those regulations. The men can not finance the project.

And the Secretary was seriously trying, earnestly trying, to make in that contract a workable contract between his department and the applicant.

Now, this is another attempt to do the same thing, Mr. Chairman, but it does not do it, in the opinion of—in my personal opinion, at least.

The CHAIRMAN. Are the present regulations of the department as onerous as they have been, or has there been any change recently in them?

Mr. FINNEY. Well, I am talking about the regulations that I know most about—the Pend Orielle regulations. I have not seen anything since that which would show that they are handling the subject in a fairer or broader way.

The CHAIRMAN. All right; you may proceed.

Mr. FINNEY. But the part that I object to in this particular clause in the bill is this: Suppose I go out on the public domain. Mr. Leighton was describing a process of acquiring water rights, and perhaps he left the impression that very little money and very little time is necessary to get them together.

But he left out entirely the fee to the engineer; he did not say anything about the engineer who would pass on these things, or the large amount of engineering plans, etc. That in itself would greatly increase the expense.

A man goes out, we will say, and discovers a water right. He sees the way in which the stream flows from one level to another, and it looks to him, as a layman, to be a good thing—and a good many of these projects are discovered by laymen; some of them are engineered by laymen. [Laughter.]

He stakes out his discovery stakes, and the first thing he does is to hire some engineer to go up there and make a report. If he hires a good engineer he begins to pile up engineer's fees very quickly. The engineering involved in some of these projects takes years.

For instance, we have been purchasing water rights in the South. My company began about four years ago on the plan to develop 250,000 horsepower down there. I venture to say that we have spent $1,000,000 in engineering, and we are not through yet. We have had a field force of 20 or 30 men in that one company for two or three years, working out all the engineering details of that large development.

Now, the man who has the project does all that; he puts up money for options; or he might have to buy some portions of land for strategic purposes; and he comes down here to the Secretary of the Interior with a large investment—every dollar that he has got himself or can borrow from his friends—behind him. And the project is only in part engineered at that; because when the man goes to New York or Boston to borrow his money to develop it, after he has got his rights from the Secretary of the Interior, the capitalists say to him: "This project has to be passed on by our engineers, and John Jones. your engineer, is a fine fellow locally, and he doubtless knows all about it; but we want our own engineers to pass on this."

He does not come down to the Secretary of the Interior with just empty hands. He has put in perhaps years of work, or months of work, and large sums of money to get his water rights going, and he comes down and asks the Secretary of the Interior for a permit.

The present Secretary of the Interior would deal with that man fairly and squarely. But the objection that I would have to the plan is that the next Secretary of the Interior might not do it, or the next one after that; if this same man came to the department after he had got his first development, and he has gone beyond the capacity of his first plant and wants to develop these other plants and he applies for additional rights—not to Secretary Lane, but to somebody who had succeeded him; and the conditions that the Secretary at that time would impose on that man might be such as to entirely wipe out his project; they might be so onerous and so unfair that the man could not use the right. Of course, he could turn to steam to get his power; we can always say that; he does not have to take it; he can turn to steam.

The CHAIRMAN. Well, that would not be an answer to his application, of course.

Mr. FINNEY. No; certainly not. But he does not develop his water power. Legislation in order to effectively bring about the development of water power must be fair, and you can not legislate to compel investment; you can not legislate that I have got to put my money in water power.

And when you talk about the function of these bankers—you know some people object very seriously to the banker coming in and bond-

ing these properties. How are you going to get fifteen or twenty million dollars for the Southern Power Co., for example, unless you go to the banker, who, after all, is not the final man who makes the investment? He sells these bonds to you and to me and to other investors. These water powers are not owned by the great interests; they are owned by the widows and the orphans, the people who have invested their money.

And that is the way it would be in the West. Those projects would not be owned by great interests. The common stock might be, but the bonds would not; the only things that had a lien on the properties would be owned by the people of the communities, or by the New England widows and orphans.

Mr. KENT. But the stock is what directs the company and manages its policy, is it not?

Mr. FINNEY. My dear sir, the stock must direct the company; the bonds represent borrowed money, and not profit, Mr. Kent.

Mr. KENT. I know that; but you were talking about the companies being in the hands of the widows and the orphans.

Mr. FINNEY. Well, the companies must be in the hands of the men who upbuild them.

Mr. KENT. Undoubtedly.

Mr. FINNEY. These men upbuild the company, it is true; but it is still truer that they are upbuilding the communities that they serve.

Mr. KENT. I am not disputing the proposition as to the upbuilding, but you just got into a contradiction and I merely called your attention to it.

The CHAIRMAN. Now, let us return to the practical situation presented, so far as this legislation is concerned, and get Mr. Finney's views. The only thing that you now have is the revocable permit under the act of 1901, is it not, Mr. Finney?

Mr. FINNEY. Yes, sir.

The CHAIRMAN. And that is unsatisfactory because the Secretary can come along and cut you off at any time?

Mr. FINNEY. Yes.

The CHAIRMAN. And what the water-power people would like to have would be a grant in perpetuity?

Mr. FINNEY. No, sir; I will have to contradict that idea; I do not believe——

The CHAIRMAN (interposing). Well, the general appeal of all of you gentlemen borders very close on that.

Mr. FINNEY. No, sir; you misunderstood me.

The CHAIRMAN. Well, what would you want then?

Mr. FINNEY. I think we ought to have a fixed tenure for a certain definite period.

The CHAIRMAN. For how many years?

Mr. FINNEY. Fifty years.

The CHAIRMAN. All right; we have that provision here in the bill.

Mr. FINNEY. I think we ought to have the right to occupy the property for any further period until the Federal Government comes in and says, "We want this for our use"; or until the State comes in and says, "We want this for our use."

The CHAIRMAN. All right; we understand your position on that point. What about the fixing of the royalty or of the rental?

Mr. FINNEY. I do not think that makes any difference.

The CHAIRMAN. What do you say about the adjustment or providing of new conditions at the 50-year intervals; would you or would you not save that right to the Federal Government?

Mr. FINNEY. I would save it for some one authority; I would not save it for two. I do not think the Federal Government has anything to do with it, if the State is doing it.

The CHAIRMAN. You do not think that the Federal Government has anything to do with that—with the conditions that we lay down for our own property? I think that right of the Government is conceded by every lawyer who has appeared here before the committee.

Mr. FINNEY. Well, when I said that you have not anything to do with it, I did not mean that you did not have the right to do it. I think the Federal Government has the right to do anything it pleases.

The CHAIRMAN. With its own property?

Mr. FINNEY. Yes; with its own property. Whether that right be reasonably exercised or unreasonably exercised does not make any difference——

The CHAIRMAN. Yes.

Mr. FINNEY. Except as it bears on whether you are going to encourage or discourage water-power development.

The CHAIRMAN. Well, I agree with you on that. What would you say about giving the State or the municipality using the right, at the end of the period of, say 50 years, to take over the property?

Mr. FINNEY. I should consider that for a public necessity, a public need—that they would exercise it if there were a public demand; and the State itself ought to determine whether that State needs it.

The CHAIRMAN. Would you be willing to have the law and the lease so fixed that, at the end of the 50-year period, if the public interest demanded it, they could take it over?

Mr. FINNEY. Yes; under conditions which would give the man back what he put into the project; not to confiscate his project.

The CHAIRMAN. No; to take it back by repurchase. This bill provides for the repurchase, at actual costs, so that the water power and water-power plants, if any there be, would come back to the Government in the event of retaking.

Mr. FINNEY. That is only a part of the provisions of that section, Mr. Chairman. The bill provides that the Government upon such a repurchase shall pay "The actual costs of rights of way, water rights, lands and interests therein purchased and used by the lessee in the generation and distribution of electrical energy under the lease."

The CHAIRMAN. Well, you would not think it advisable for the lessee's interest, or the water-power people's interest generally, to let the Government have the right to take back part of it and reject some of it?

Mr. FINNEY. No; because you have got two different properties here at two different prices, and there are two different methods of arriving at the prices.

The CHAIRMAN. No.

Mr. FINNEY. Yes; you have.

The CHAIRMAN. As the bill reads it provides for the taking of the properties at actual cost.

Mr. FINNEY. Not at all; it is the actual cost of the lands and the fair valuation of the other property.

The CHAIRMAN. You are right about that. Well, what do you think about that?

Mr. FINNEY. Well, as a matter of fact, the actual cost of rights of way, under any lease proposed under this bill, would be nothing. You are leasing lands and not selling it, so there is no actual cost under it. If, however, this clause covers right of way, water rights, lands, and interests from other sources than the Government, I do not think it is a fair provision.

The CHAIRMAN. You would compel the Federal Government to pay the value of it at the end of the term irrespective of how great the growth had been?

Mr. FINNEY. I think so; I do not see how you evade the obligation to purchase at a fair value.

The CHAIRMAN. Do you think such a provision as that would be in the public interest?

Mr. FINNEY. I can not conceive of where there would be the large unearned increment that has been mentioned here. Certainly the water power for hundreds of years is not going to be sold at any higher price than it is to-day. The whole tendency of prices is to go down under State regulation; it has a downward trend, and we can not prevent it. We are going finally to be permitted to earn perhaps 8 per cent on our investment and no more. Now, where is any unearned increment going to come from a project that can earn only so much money?

The CHAIRMAN. Don't you look upon both water power and electrical producing as being in its infancy now?

Mr. FINNEY. No; I do not. Some years ago I heard it said that any man that used that phrase ought to be hung, because the industry is a pretty good-sized man. It is not in its infancy by any means.

The CHAIRMAN. Does not every day bring forth a revelation in the use of electricity? Just scan back in your own mind a few years and compare with the present.

Mr. FINNEY. Mr. Chairman, I have been in the electrical business for 30 years.

The CHAIRMAN. Just review that 30 years for a moment and see if you want to hang anybody who says that electricity is in its infancy.

Mr. FINNEY. I do not mean any personal application at all.

The CHAIRMAN. I know; I understand that. I am just following the thought, that is all.

Mr. FINNEY. The motor that was used 30 years ago is the same motor in principle that is used to-day. We have adapted it to new uses, that is true, but we are not doing it in any different method than we did 30 years ago. The principles of electricity have not changed in all that time. We are building better machinery; we are transmitting over wider areas; we are building larger units; but a motor that was built 30 years ago is usable to-day and is probably just as good a motor as we can build to-day for that particular business.

The CHAIRMAN. The automobile that you bought last year is out of fashion this year.

Mr. FINNEY. I am not talking about automobiles; I am talking about electrical appliances. Of course there are improvements naturally, because we have progressed in the 30 years. We are transmitting 150,000 volts where 5 years ago if anybody had said such would be done it would have been considered a wild dream. And I am not stating that 150,000 volts is the limit of high tension that can be used in overhead transmission lines, though I think it is. But there is no radical change that can take place in the utilization of electrical power. It is water driving the water wheel that drives the generator, and electrical energy is generated; and it is not energy, as somebody said, taken out of the water.

The CHAIRMAN. I heard that.

Mr. FINNEY. It is electrical energy generated by the power of falling water transmitted over wires at various potentials to various points of distribution.

Mr. RAKER. I am foolish on some things, but there are some than I am not.

Mr. FINNEY. I do not think any of the committee said it.

Mr. THOMSON. Some of these conditions that you have described as attached to hydroelectric plants, such as immobility of the plant itself and drawbacks incident to transmitting power, also attaches to steam plants, do they not?

Mr. FINNEY. Not to that extent, sir, because the steam plant is mobile. You can locate your steam plant at or near your centers of distribution. The steam plant represents only a small investment as compared with the hydroelectric large investment. You can take up the boiler and engine and the generator and move it somewhere else. You can move the building somewhere else. But your water power is a permanent fixture, and must always stay right there. That is the point I wanted to make. And that permanent fixture may be 200 miles distant from the market that can be served by a steam plant located right at the market.

Mr. KENT. You spoke about the Government's contribution in the way of water as being a comparatively small part of the investment, a small part of the business. The facts are, it seems to me, as I think you will agree, that the water power in this case is the whole soul of the investment, without which the investment would not be possible. It is not a question of what proportion the Government puts in, but the Government holds the key to the situation. Now, ought or ought not the Government use its position as holding the key to the situation, being sovereign in such a way, to retain any of the benefit?

Mr. FINNEY. If you consider that the general benefit is furthered by preventing development, that is true.

Mr. KENT. No; I do not consider that for one moment.

Mr. FINNEY. I can not see, Mr. Kent, wherein the Government or the people benefit by a policy of locking up these rights.

Mr. KENT. That is entirely beside the point, because every one of us wants this utilized; but we, holding the power, do not see why we should grant extraordinary profits if we can get the development with less profit. It is just a question of what our rights in the position are, and what our duties are.

Mr. RAKER. Would there be any distinction between the State having the right of eminent domain and an individual or a company or association taking the State's right or assuming the State's right

because they are going to use their business for some public purpose, for the State to say to every individual that assumed that sovereign power of the State that we are going to hold you up because you want to cross this man's land over here, and you can not do it unless you use the State's right; to charge a large revenue to a company or the individual that acquired that right any more than it would be for the National Government, if you wanted to cross a 40-acre tract of land, to say to the individual that wanted to go into the electrical business that you should pay for this right, not what it is worth to the Government or to the public, that you are going to invest $10.000,000 in here and we are going to charge you so much for the entire investment because you have to use our right of way to cross this particular tract of land? Now is there any difference between the State using the same thing it has, and the Government?

Mr. FINNEY. Not a particle, I think, sir.

Mr. RAKER. Now, if the State, with everyone who comes within the purview of the law and say that they are going to exercise the State's sovereignty, the right of eminent domain, they subject themselves to State regulation to obtain the right of way for these public functions, do they not?

Mr. FINNEY. Yes.

Mr. RAKER. Now, the difference between them and the Federal Government is that we do not allow the right of eminent domain over the lands owned by the Government, do we?

Mr. FINNEY. We do not.

Mr. RAKER. And instead of that we give grants to certain individuals who may apply, or leases, and this bill provides for irrevocable rights under the lease as they now exist; can you see any more justification in the Government holding up an individual who has a legitimate enterprise and charging him an exorbitant sum for it than you could from the State?

Mr. FINNEY. No, sir.

Mr. RAKER. Is there any difference, any reasonable difference, between the two?

Mr. FINNEY. I can not see the slightest difference in reason. If the Government wants to promote water-power development, every one of these irritations that are in the mind of the public ought to be removed. I can not conceive of how we can sit down here and say we should regulate and restrict and hamper a properly regulated natural monopoly, like water power, already properly regulated at the hands of the State, if we want to bring about development; if we impose the conditions that public-service companies must make their bargains with the States and come down here with clean hands, having all the rights that the State has conferred upon it, and ought to confer upon it—and it is the matter that the State is concerned in getting started—why the Government should impose unnecessary restrictions on it is beyond my comprehension, just because it has the right to do it.

Mr. KENT. I do not know what the law is in other States, but I am going to assume that it applies to the State of California, and I want to use the word " individual," so there will not be any complication as to corporations. An individual can not build a railroad in California and condemn the right of way—use the sovereign power for

condemnation. Now, because it condemns across a piece of land belonging to the State, would you say that the State ought forever to charge an exorbitant price for that right of way to the individual that wants to build this railroad?

Mr. FINNEY. I should think not, if it wants the railroad built.

Mr. KENT. Well, now, the same way with reference to the right of way across the State land for a hydro-electric plant, or for land for its dam or its ditch that may be necessary in building its plant, should the State, in your view, charge a large rental or a large royalty for its right of way across there?

Mr. FINNEY. Not if it wants the project built.

Mr. RAKER. Under State regulations, the State would only get a fair value of the land; now, isn't that right?

Mr. FINNEY. Yes, sir.

Mr. RAKER. Well, now, the State then assumes—not only assumes, but actually controls—this railroad, built and run by an individual or by a corporation or association. It controls the question of charge of the individual that built its electric plant.

Mr. FINNEY. Yes.

Mr. RAKER. Now, as soon as that is done, and absolute control is maintained by the State over that individual who has its electric plant, so that only a reasonable and fair charge can be made, can anything more be asked?

Mr. FINNEY. I do not think so.

Mr. RAKER. Ought anything more to be asked?

Mr. FINNEY. I do not think anything else ought to be asked.

Mr. RAKER. Now, applying the same to the Government, ought the Government, from your viewpoint as a citizen now, assuming complete regulation by the State and by the Government, burden an individual who desires to obtain a right of way across part of the Government domain for the purpose of establishing an electric plant?

Mr. FINNEY. I think the Government could well afford to subsidize about 75 per cent of these water-power plants to get them into service; not only give it to the man free, but to pay something to get him to work, because I believe that 75 per cent of the water horsepower in the United States is going to be forever wasted until you bring about an industrial development of them, for industrial purposes, that you have almost compelled to subsidize, when you find that the water powers of the balance of the world are much more favorably located.

Mr. THOMSON. If this were a court I would object to the gentleman's question, that they are irrelevant and immaterial. I can not see that we are getting anywhere so far as the facts are concerned. The judge is developing a very good argument for certain propositions, but we are not getting facts.

The CHAIRMAN. The Chair thinks Judge Raker has a great deal of this water power in his district, and he is very keenly interested in it, and while we are trying to get through, and want to get through, I think we better go ahead.

Mr. FINNEY. Please bear in mind that I am not a lawyer.

Mr. RAKER. I am not going into the law at all; I am not talking about that; I am talking about the question of the applicability and

the principle underlying. All this is of interest to the consumer, the interest of the Government, or the interest of the State, as the case might be. I was asking you from your experience as an engineer—that is what I am trying to get at—as to what would be the eventual result if a charge is made to the individual or company that obtains the right, and in addition from whom, whether or not it would go to the consumer eventually or not. That is what I am trying to get at or will be before I get through.

Mr. FINNEY. I think I must take issue with Mr. Fisher on that. I can not see where else it could go but to the consumer.

Mr. RAKER. Mr. Pinchot said it did not go to the consumer, and these men have had some experience, and you have had some experience. Now, I want you to explain to us, if it does not go to the consumer, where would it go?

Mr. FINNEY. It goes to the consumer, Mr. Raker, without any question. That is the only place it can go. Suppose the charge is 25 cents per horsepower and it is $25,000 a year for a hundred thousand horsepower, you do not get $25,000 out of blue air; it does not grow on trees. It must come from the consumer who buys the product of that company. Of course the entire income from the plant must come from the consumer; and if the plant is taxed $25,000, it must necessarily come from the consumer. No hydroelectric plant has any way of coining money. It does not gather from any source except the consuming public.

Mr. RAKER. Then your statement as an engineer who has had experience in these matters is that every dollar charged for the use of the Government domain for any purpose connected with those mentioned in the bill would eventually come back to the consumer?

Mr. FINNEY. There is no question about it.

The CHAIRMAN. Judge, those hypothetical questions do not get us anywhere, whether he says that comes out of the consumer or whether he says it does not. He knows no more about whether it comes out of the consumer than we do. No one knows.

Mr. RAKER. Mr. Chairman, one ex-Secretary and one ex-Forester stated to this committee that the charges paid to the Government would not come out of the consumer.

The CHAIRMAN. I know, but there is no use trying to develop all these things. Neither witness would know what the company does with their money.

Mr. RAKER. I am asking it as a fact of financing and of engineering; and if this man, I take it, who has had wide experience, has gone into this, and if they paid a rental, and he says that it must be added to the cost and eventually will be charged up to the consumers in fixing the rate by the public-service corporations, that is what I want to know.

The CHAIRMAN. Those are theories, Judge, that can not bring us any conclusion.

Mr. KENT. As to Mr. Fisher's argument, I would like to suggest that the difference would be absorbed by the hydroelectric people, and that that was where he gets his revenue, and not from anywhere else.

Mr. FINNEY. What becomes of the case, Mr. Kent, where the cost of steam-generated power is even with the cost of hydroelectric?

Mr. KENT. Then your contention would be that the difference would be taken out of the consumer under strict regulation?

The CHAIRMAN. These are interesting as theories, but we do not care so much about theories, as they will not get us anywhere.

Mr. RAKER. Mr. Chairman, I asked this question not as a theory from the witness on the stand, Mr. Finney, but as a man of experience in his actual engineering schemes and his engineering work he must go into the financial end of it, and whether or not he does not figure for the party he is working for, that every dollar they pay must be added to their business, and the charges they must make must be fixed in proportion to the amount that it actually costs them.

The CHAIRMAN. Suppose he says that they do. He knows nothing of the workings of the books of all the companies in the United States, I suppose. And suppose he says that they do not. What good does that do the committee for him to say they do or for him to say they do not? Not the least in the world, because neither of us know anything about the books of the company.

Mr. RAKER. He can not know unless upon some such fundamental principle as was presented by the two distinguished gentlemen who appeared before this committee, and who stated that these did not come out of the consumer. It sort of puzzled me, and I wanted to know from these men of engineering experience, and bankers and financiers, whether or not it was correct; that is all, Mr. Chairman.

Mr. CHURCH. Let me say that those statements that were made to us heretofore were very absurd, and I for one am interested and have been interested, and I think it has been fully answered, not only by this gentleman, but by others, to the effect that it must necessarily come out of the consumer.

The CHAIRMAN. Perhaps that is true, Mr. Church, but what is the use of having witness after witness on that? Perhaps Mr. Fisher did not know when he stated whether it did or did not. I assume this witness does not know, and the only thing we could do to prove that would be to bring their bookkeepers here and decide what was actually done. It is not the best evidence for Mr. Finney or Mr. Fisher or anybody else to come here and say what they actually do with their earnings. You can not prove that fact that way.

Mr. RAKER. I have this written down, and I was coming back to the point; I will get through in just a moment. On the questions of the provisions of sections 5, after the termination of the 50-year period, I understand from your statement that all property outside of that which has been obtained from the Government, if the property is recaptured or taken over or released to some one else, that the then owner should be paid a fair value for the property obtained from other sources, outside of the Government; is that your view of it?

Mr. FINNEY. I hope that that is my view. I hope that that is the intent of this section 5; but it is not clear in my mind. As to what that means, you are trying to put the actual cost of rights of way, water rights, lands and interests therein purchased and used by the lessee in the generation and distribution of electrical energy under the lease in one basket. I assume that is the lands and water

rights, etc., that you have obtained from the Government. But the wording is not clear as to whether that is confined simply to the lands obtained from the Government, water rights and leases, or if it covers lands, rights of way, water rights, etc., obtained jointly from the Government and from other sources. I can see no fairness in the provision that shall give it to the Government at its actual cost. In the other basket is put the other property, "including structures and fixtures erected or placed on the lands, and included in the generation or distribution plant and which are dependent as herein above set forth" shall be paid for on the reasonable value to be determined by mutual agreement. That is the other basket. Of course, the whole thing ought to be taken over or none at all. You might call this basket worth $100,000 and the other basket worth $1,000,000, and neither one is worth a penny without the other.

Mr. RAKER. Would it be offensive if I asked you this question, which you need not answer? Your interest in appearing here is to give the committee your knowledge of 30 years' experience with hydro-electric matters?

Mr. FINNEY. It is, sir.

Mr. RAKER. And without any personal interest at all?

Mr. FINNEY. Without any personal interest whatever.

Mr. RAKER. In regard to this plant that you have spoken of here, the Southern Power Co., do the various States regulate those plants?

Mr. FINNEY. The State regulates it in North Carolina; it is proposed to regulate it in South Carolina; and the State regulates it in Georgia.

Mr. RAKER. Is there any complaint in those localities that this company has run up its price, as to amount of charge?

Mr. FINNEY. I think not, sir. There is an overwhelming desire on the part of everybody who can be reached by transmission lines to get it into other neighborhoods and localities and give them power. They are selling power at a very cheap rate, and they are giving very excellent service. The rates for the Southern Power Co.'s power are considerably under the cost of steam in the ordinary steam producing plants down through that section.

Mr. RAKER. Have you had any experience in the public lands States as to the development of water power, hydroelectrical energy, the last six years?

Mr. FINNEY. Not directly.

Mr. RAKER. That is all.

Mr. SINNOTT. I would like to know what is the scope of the general regulation which you think should be incorporated into the bill and not left to the Secretary to fix?

Mr. FINNEY. I think that the Secretary should not be empowered to fix general regulations. In the first place, I should say that this limitation as to the selling of power in excess of 50 per cent of the total output is unwise.

Mr. SINNOTT. That is provided for specifically in the bill.

Mr. FINNEY. I mean at his option.

Mr. SINNOTT. What would you expect the Secretary would do under this permission to fix general regulations; what specific things would he provide for?

Mr. FINNEY. That I am hardly prepared to answer. I have not drafted the proposed bill, and my criticism has been destructive rather than constructive. I think if I were asked to draft a bill I could draft a satisfactory bill promptly.

Mr. SINNOTT. Well, now, isn't there danger, if we undertake to provide those general regulations in this bill, that they will become somewhat rigid, on account of our lack of knowledge of these matters; and is it not better to get flexibility and adaptability to new circumstances, and leave the matter to the discretion of the Secretary? That is the argument that is made, and that I would like to be able to answer.

Mr. FINNEY. My whole answer to that is that if we knew who we were dealing with each time, if we knew that we were dealing with Secretary Lane, that objection would very promptly disappear from our mind. The serious difficulty comes in in the change in administrative officers, which is inevitable; each one of whom would have different ideas about a policy. I said if I were asked to draft a bill I would draft it. I have made such a draft. May I, with your permission, for just a moment——

Mr. RAKER. Before Mr. Finney starts that, may I ask him this question, would you, with your associates in this American Institute of Electrical Engineers, take this bill and put it in concrete form and submit a draft of it to the chairman of this committee within the next three or four days?

Mr. FINNEY. We would, if we were asked to do it, Mr. Chairman.

Mr. RAKER. I am asking you to do it.

The CHAIRMAN. I join in that request.

Mr. RAKER. If we have the benefit of your knowledge on the matter it might be very helpful to us.

Mr. FINNEY. I think we would be very glad to do it.

The CHAIRMAN. May I add, with Judge Raker's permission, we are still considering this.

Mr. RAKER. That is the point. I am anxious to get information; my mind is not made up on any of these matters yet.

The CHAIRMAN. Nor that of any of us here.

Mr. FINNEY. I know, Mr. Chairman, that the creation of commissions is not much in favor, but we have here in the departments, in the administrative branch of the Government, three secretaries who deal with water power. They deal with it from different angles, it is true, but the essential principles of the water power are the same in all three departments—navigable streams, water in national forests, water on the public domain—there is no difference, and they require no different treatment, in my opinion.

The CHAIRMAN. They all ought to be under one head.

Mr. FINNEY. They all ought to be in—well——

The CHAIRMAN. Can there be any doubt about that at all?

Mr. FINNEY. I do not see that you are ever going to bring that about, and I do not believe that the War Department is ever going to give up its absolute control of navigable waters; you can not take it away from them, I do not think. But you can consolidate the public lands and national forest water power, I think, readily.

Mr. RAKER. Why can not we take it away from the War Department?

Mr. FINNEY. I do not believe you will ever take it away from the Forest Service, but I say you can probably accomplish more in that line than you can with the War Department.

The CHAIRMAN. Why should either department resist it for the moment, if it is advisable to have it in one hand?

Mr. FINNEY. You got comments on that from people who are much more closely identified with the forest service than I am. You heard what Mr. Pinchot said; you heard what Mr. Wells said this morning, that it is inadvisable and inexpedient.

The CHAIRMAN. They are not connected with the Forest Service, are they?

Mr. FINNEY. Not now. A water-power commission composed—the commission idea may be wrong, or the word commission may be wrong—composed of the three Secretaries could be empowered to grant permits not inconsistent with the public interests, first, to corporations or individuals chartered by the State as public-service corporations, or for other beneficial use, under a State charter, putting them under strict public regulation to see that this corporation or individual has made a fair bargain with the State, and after a fair bargain has been made with the Nation for any rights owned in fee or held as trustee by the Nation, these permits to run for a fixed term of 50 years, and thereafter unless taken over at fair value for a public need. The public need is always paramount, and the property is always available upon payment by the Government, whether it be of the State or the Nation, of the fair value of the man's property. A bill of that sort could be written on two pages.

The CHAIRMAN. Under Judge Raker's suggestion you are going to prepare that and send it up?

Mr. FINNEY. That is rather a large job; how much time did you say you could give us on it, Judge?

Mr. RAKER. Take three or four or five days; we won't get through before that time. I am in dead earnest.

Mr. FINNEY. We will try to do it, because I really believe that we can help you in it.

Mr. RAKER. As the chairman has said, if this matter can all be done in behalf of the Government by one department or one bureau or one commission, I do not imagine the Forest Service or the War Department or the Department of the Interior would say a word if we get the service.

The CHAIRMAN. I should think they would be happy to escape the responsibility, if it could be done.

Mr. CHURCH. When Judge Raker asked Mr. Finney to take four or five days to prepare this, I wonder if he realizes Mr. Finney is a high-priced engineer.

Mr. FINNEY. I have given up time to this already, and can try another five days.

Mr. BROWN. I understand there are certain general rules and regulations, such as are incorporated in this bill under consideration and now before the public, and that operations are being conducted under those regulations. Are they satisfactory to you as they are?

Mr. FINNEY. You mean the regulations of the department?

Mr. BROWN. Yes; the discretion that is now vested in the departmental authorities.

Mr. FINNEY. Mr. Brown, I think they are wholly unsatisfactory, not only to the water user but to the department itself.

Mr. BROWN. I do not want to delay the proceedings, but could you specify in a word what the trouble is?

Mr. FINNEY. I think it is the instability to the investor by reason of the revocable permit.

Mr. BROWN. Is there any particular condition now existing which is objectionable to the water users and electricity consumers?

Mr. KENT. The revocable permit is a fixed matter; it has nothing to do with the regulations.

Mr. RAKER. I mean under the old law. I imagine that the Secretary could give a man a right to run for 50 years if he did not violate the rules and there would have been no question about it, but they have not done it.

Mr. THOMSON. Mr. Finney, can you state any general regulations that are in force now that are undesirable, from your experience?

Mr. FINNEY. I think the best answer to that is to take the regulations issued to the Pend d'Orielle Co.

Mr. THOMSON. Those are general regulations?

Mr. FINNEY. They are the latest regulations, so far as I know, of the Interior Department. It has been absolutely impossible to finance that project under those regulations, which the Secretary himself intended to be fair and reasonable.

Mr. BROWN. In other words, it is not the individual.

Mr. FINNEY. I wish you would read them, as a matter of curiosity, and then say how a man could possibly develop or ever hope to develop a great big commercial proposition, involving millions of dollars, as does that project, under the terms of those regulations.

Mr. THOMSON. Were those regulations put into effect by Secretary Lane, or by whom?

Mr. FINNEY. My recollection is that it was by Secretary Lane. I do not know how much previous work had been done on them before, but I think Secretary Lane promulgated them soon after he came into office.

Mr. O. C. MERRILL. There is a misunderstanding. Those are not general regulations. That is a special permit that was granted in that special case.

Mr. FINNEY. They are more liberal than the general regulations were intended to be. They were intended to be a solution of all the difficulties that these water-power people found in financing.

The CHAIRMAN. Have you a copy of the regulations?

Mr. SINNOTT. They are in the record.

Mr. BROWN. I think the gentleman is going to put them in the record.

Mr. SINNOTT. I think they are in the Senate record.

STATEMENT OF MR. DENNIS T FLYNN, BANKER, OKLAHOMA CITY, OKLA.

Mr. FLYNN. I appreciate, Mr. Chairman, your pleasant introduction. I should like at the outset to say that I do not believe anybody could have remained here during these hearings, no matter how ignorant he may have been on the subject under discussion, and not have been inoculated with some idea of the effect which this legislation

will have. I am not engaged now in active business. As your chairman knows, I retired about a year ago. I have been largely interested in gas and electric properties, and since the time mentioned I have been a purchaser of public-service securities.

If legislation that I think is safe and sound can be hammered into shape, I expect to be an investor in water-power securities which have been offered to me. I want to say to you gentlemen frankly that I hope none of you are governed by the idea that the public interest is only conserved and the public welfare is only thought of by former officials or by present officials in administrative offices in this Government. The only forest reserve in my State I had set aside, and it is now in one of Mr. Ferris's counties. I will probably have to apoligize to him for that. I had it incorporated in the President's proclamation an hour before it was issued, opening the Kiowa and Commanche Reservation for settlement. I did not know anything about the Forest Reserve Bureau and cared less.

I mention that with one or two other instances, which I am going to speak of, for the purpose of showing that the individual Members of Congress are capable of taking care of public questions without delegating them all to the red tap of the Interior or any other department, and I care not who may preside in the office of the Secretary of the Interior. The drawing method now in use for the opening of Indian lands was drafted by me. It did away with the opening of Indian lands by a rush, because I attended the rushes and saw 20 men run for each claim, and saw bloodshed and contest. It provided in the opening of the Kiowa and Commanche Reservation, which is now within the chairman's district, something new and novel. It provided that there should be a drawing, not only of the farms, but of the town lots, there being no revenue attached to the drawing of the farms, but provided for auctioning of the town lots, divided the receipts between the city and the county for public purposes. I could not get many supporters in the Interior Department to sustain me in that change, and I will tell you why. They did not oppose me, but they did not support me; they were afraid, just as a great many committees in Congress have been, that they would be pestered to death by preachers and moralists, who said it was a gambling device. But Congress passed the act. It was successful, and there has not been a piece of Indian land of the United States opened to settlement since that time that lottery or drawing provision has not been in. So that, as I say, all the knowledge, all the good, all the desire of the people of this country for beneficial legislation is not wrapped up, if you will pardon me, in officials of the Government.

Now, with reference to this bill, I think it will be conceded that it is a step further than anything that has ever been attempted. I am here, gentlemen of the committee, for the purpose of trying, if we can, to get some kind of legislation that will be worth something after you enact it.

I have been to see the Secretary of the Interior, and I want to say to you frankly, though I had never seen him before, I was familiar with all the other Secretaries from the time of Mr. Lamar, under Mr. Cleveland, and I have had the honor of being a member of this committee, sitting as your present Delegate, Mr. Wickersham, sits, for eight years. I am not running for office now, but I

had the record of having been instrumental in passing many bills affecting public lands. It may have been a little amendment here and an amendment there. Most of the Western States got the benefit of the last free-homestead bill. I fought in this committee for that bill, and they laughed me out of the committee room for years. They laughed at me, but we finally saw the measure enacted, it being made not only a bill for Oklahoma, but a general bill, relieving all settlers on the public lands which had been purchased from the Indians from the payment of $65,000,000 to the Government.

With reference to this water-power bill, as I say, I sometimes buy the securities, but I am not a bond broker. As a matter of fact, I operate for nobody except myself. I have met at different times some of these so-called big business interests, but I am from Missouri with the big business interests the same as I am with anybody else. If a thing suits me after investigation, I invest. Otherwise, there is no regulation of the Secretary of the Interior or anybody else that is going to make capital go into our western country and develop water power or anything else.

What is the first thing to do? They talk about these bankers. I used to be in the banking business, and the last time I ran for Congress my Democratic opponent said I was connected with 23 national banks, and I said that he should apologize; that I was interested in only 22! I have talked to the chairman and the Secretary of the Interior with reference to trying to get this bill where, after you enact it, somebody would be willing at least to put up a dollar on it, instead of 30 cents.

Mr. RAKER. Can you get them to agree on these things?

Mr. FLYNN. They have been very nice to me. I will tell you I am stuck on Secretary Lane. I do not know how I am going to be when I get through with him, but at the present time I am.

The first amendment that is suggested in this bill is for striking out "empowering" the Secretary of the Interior under general regulations, etc., and directing him to act. Let me tell you a personal experience I had when in the House. I drafted a bill affecting an Indian reservation in Oklahoma, authorizing and empowering the department to appoint allotting agents, and the Secretary of the Interior for three years declined to comply with the act of Congress; he said he did not think it was advisable. Three years later we had to pass an act through Congress directing him to execute the law. Why should not Congress direct? It is no disrespect. I think that we would have a great deal less trouble throughout all of the country if Congress, instead of doing what was suggested here by some gentleman as to finding some place to hang a peg, and then regulate it, if Congress would specifically state what it meant. This committee is composed largely of men from the West. They know the hardships of the settlers out there. I do not want to appear in the attitude of a bloated bondholder. Let me tell you—in 1882, with two other young fellows, without a friend west of New York, I went west with a covered wagon and a yoke of cattle. I have stayed there ever since, and intend to stay there. I believe there are certain rights that the people of that country have, and I believe that Congress owes them a duty as well as to others to say what it means instead of shirking the responsibility and saying

we will authorize and empower. But why should it not be directed? As I say, I have had experience with various Secretaries. We had Secretary Hitchcock; we had Secretary Garfield; we had Secretaries Ballinger and Fisher. We have Secretary Lane—and I do not know what the name of the next Secretary is going to be, but we are going to have one! But no two of those Secretaries have agreed on an entire line of policy. That was demonstrated right here in your consideration of the word "cost" in section 5. Mr. Fisher has said always, it ought to be a fair value if the Government took the property over. The present Secretary thinks it should be at cost. Mr. Garfield, when Secretary of the Interior, in one of his last official acts, on the 2d of March, before he went out of office, revoked 25 or 30 permits, which has absolutely put development of these water-power matters to a standstill. And capital turns around and says, if the Secretary has the power to issue a revokable permit, he will exercise that power in many cases after we have put money in. And that was the case with Mr. Secretary Garfield's revocation in a number of instances. Make it direct, no matter what else you do, so that if one wants to put money in, or if one wants to raise money for somebody else to put it in, it is possible to do so. Under section 13 of this act, it is provided:

That the Secretary of the Interior is hereby authorized to perform any and all acts and to make such rules and regulations as may be necessary and proper for the purpose of carrying the provisions of this act into full force and effect.

That is all the authority the Secretary of the Interior or any man ought to ask from Congress in connection with this.

Mr. RAKER. We have been fighting here for two months on the proposition.

Mr. FLYNN. I have been at these hearings, and while I may not approve of it, I am satisfied that a definite policy exists in this committee, and my remarks are going to be based on that fact. There is no use of my coming here and discussing with you the rights of the State of of the Federal Government. A majority of the Committee seem to have settled that. I have been here long enough to observe something about that. That is why I say to the men from the West, who are the advocates of the ultra State rights proposition, that is why I say to the people who are the so-called ultra conservationists, if you want to develop and raise money there is only one way to do it. You can not both ride horses going in opposite directions and expect the investing public to develop water powers in the western country. Now, this bill with some of these Pierce amendments is stronger than the bill of the Secretary of the Interior. Do not understand me as not being for regulation. I am for regulation, but against ruin. I am against giving the Secretary of the Interior or anybody else a roving commission under such rules and regulations as he sees fit to promulgate. I do not think it is in public interest to do so. I do not believe that every man who has a dollar and wants to invest it in an enterprise is a crook. I have heard the arguments here, and many of them have been based on the proposition that something might arise that we do not now understand. Gentlemen of the committee, nobody has a higher appreciation for posterity than I have. But we are living in this world. The bill, as presented by the Secretary, did not provide for States or munici-

palities getting a lease. I believe the Pierce provision as suggested by way of amendment is stronger a great deal than the one suggested by the Secretary, along the line of regulation, because it provides that any State or municipal subdivision thereof, meaning cities or towns, or any public-service corporation or agent of the State which shall comply with the terms of the act shall obtain a lease.

Now, you see that leaves out the individual. I grant you that. But if you strike out section 14 of the act, repealing all laws now in force and effect, the individual is cared for, if he is a small operator, and if he is a large operator, make him incorporate and become a public-service corporation subject to rules and regulations. I say to you frankly that I believe your repealing clause is a mistake. I have no object in stating that to you except with a view of protecting the Government's interests. As I say, there are people in this country who do not hold office who are interested for their Government.

With reference to the question of 50 years, the forest division is issuing permits for that length of time now, so I understood from Mr. Pinchot. And you will pardon me if I allude to this. There does not seem to be even among the ex-officials and friends of the proposed bill, harmony. There seems to be some question here as to whether or not you are undertaking to take power from one bureau and give it to another. The man who has an interest in water power does not care a rap about that question. But in answer to the statement that under this bill you disorganize existing bureaus and you will have to employ a new force, I disagree. All you would have to do would be to transfer your force. On page 2 of the bill it is provided, " that in the granting of leases under this act the Secretary of the Interior may, in his discretion, give preference to applications," the bill reads " for leases for the development of electrical power for municipal uses and purposes," but Mr. Pierce suggests an amendment to that, making it stronger, that the Secretary shall give preference to States or municipalities for leases for electrical power for State and municipal uses. The public-service corporation that believes it is not going to be regulated makes a mistake. This is a time of regulation, and the quicker they bow to that the better.

And now, with the permission of the committee, I would like to read here just a few lines, for insertion in the record, from Mr. H. M. Byllesby, of Chicago, the president of one of the largest public-service corporations in the United States, on the question of regulation. His company not only operates plants but handles public-service securities, having sold in 1912 to the public over $45,000,000 of this class of securities.

Your directors express a hopeful feeling regarding the benefits which are beginning to result from the establishment of independent and capable public-service commissions, their experience being that these commissions approach the problems of public-utility corporations with an increasingly fair-minded attitude and a desire to do justice to all parties, and that as their knowledge of the services rendered and the problems encountered increases their attitude is becoming more favorable to the proper protection of these interests. It is unfortunate that in many cases the laws under which these commissions are established are too narrow in their scope and unnecessarily limit and hamper the jurisdiction and activity of these bodies, but as the great benefits of the work undertaken and carried through by these commissions is more fully realized it is to be hoped that there will be shown a disposition by the lawmaking bodies to extend rather than restrict the jurisdiction of the commissions.

One of the great benefits which will inure to public-service corporations from the establishment of these commissions lies, it is believed, in the supervision

which is exercised over the stock and bond issues of the utility corporations. Such supervision and the necessity of a full disclosure to the commissions of the objects and purposes of each issue and the price at which the securities are to be sold can not fail to have the effect of putting these securities on a more stable basis and thereby greatly increasing the confidence of investors in this class of securities.

In section 2 you prohibit a sale of over 50 per cent of the total output to any one customer without the Secretary's consent. If you are going to regulate it, you do not need that limitation. That is susceptible of either—it is additional verbiage or there is to be special stress laid on that, and the regulations are to be subject to that. A man that puts his money in a water-power proposition does not jump into it blindfolded, but you know, gentlemen of the committee, that of the water-power developments in this country so far over half a million of the horsepowers developed are either now or have been in the hands of receivers and are not paying anything whatever on the investment. The Government does not own any more now than it ever did own, but the hardy pioneer goes forward, as the miner did. He looks around and he says, "I thing I have got something here." Please disabuse your minds if you think that the man who tries to finance water powers as a rule just goes to the Secretary of the Interior and then he goes to the moneyed men and tries to raise money enough to finance the whole proposition.

That is not true. In the case of Mr. Pierce—they are not all like him, but the average man who takes up one of these propositions, depending on the size, is out anywhere from $25,000 to $250,000 to get his matters all in shape before he can present it for financing. As I say, they have not money like Mr. Pierce, who has probably put $500,000 in his land and other projects and now asks relief from Congress, not from the Secretary of the Interior.

Let me cite you one instance with reference to cost, as to what they had done, and what the Government does. We have different propositions in the West where the Government owns the dam. I am not going to discuss water. I am not going to get my feet wet on that subject if I can help it. Where the Government owns the dam and the land, if, with the policy you establish, you are going to fix a tax, of course you have got something more to fix, a license or tax, or whatever you call it, and in the case which I have in mind now, the parties owned the dam site, they owned 6,000 acres of land that they bought to flood. The Government owns, scattered in there, 140 acres of land, which will be flooded, and under this bill it is provided that to get the use of the Government's 140 acres, the project shall be governed by such rules and regulations as the Secretary of the Interior may provide. That Government land is not worth $1,25 an acre, or somebody would have taken it. This project will involve about $15,000,000, and the Government's land interest is about $1.50.

Now, why do these people have to come to you? Simply because there is no right of eminent domain over the public lands. There is 140 acres, and that is all there is to it. If they could come to you and say, "Look here, your land is valueless, except to us; we will give you $20,000 for your 140 acres of land to get rid of you," they would do it in a flash, so as to get a large beneficial project started, but they can not do it, and you have never given them the authority for the use of Government land. As it is the position of the Government

is nothing more or less than a holdup, and Mr. Fisher's statement about the "peg" seems to glory in this method.

Now, then, I think the provision suggested by way of amendment, with reference to construction and so forth, is less subject to speculation than the one in the Secretary's bill. I favor striking out the 50 per cent, because I do not believe it should be there, and its only effect will be to retard financing. Where there is nothing to do with the Government, where we do not have anything to do with the State, where we do not have anything to do with the municipality, if you please, except, possibly, when it is only necessary to get a franchise, with everything looking inviting for the purpose of investing and for fair profit, it is often difficult to interest capital where there are no bureaucratic orders or regulations of any kind.

With reference to the public-service commissions, I had some experience. I was the largest stockholder, or one of the largest owners in my State in public-service stocks and bonds. The people elected a public-service commission. My firm represented large interests. We were counsel for 1,500 miles of railroad, as well as a lot of other interests that we were interested in. The commission began to work. I believed, after I had been before the commission for six months, that there was a very serious doubt as to whether I owned that property or they did, so I begun to sell out. [Laughter.] I unloaded about everything by way of public-service securities I had that was held in the State, but I have reinvested since. Why? Because the commission has finally demonstrated by experience and by industry in looking up these questions that they are not the bugaboo that myself and other people interested in public-service corporations thought they were. I believe to-day in the State of Oklahoma we have one of the best corporation commissions there is in the United States.

Mr. RAKER. Is it regulating——

Mr. FLYNN (interposing). It regulates everything and almost everybody.

Mr. RAKER. It is regulating the charges and rates to the consumer?

Mr. FLYNN. Everything. Well, just one moment. The method of regulation; I do not know how it is in your States, but take it with us and it covers what I have said. The procedure is, first, you get a city franchise, which you have for 21 years. After you get that, then you go on with your project; you finance it, and everything of that kind. Our law has been amended, and now the jurisdiction of the commission is absolutely positive, so that if the city council believes that the rates are not square, they lodge a complaint before the corporation commission, and a hearing is given. To show you how particular bankers are—the bond handlers—I was president of the Oklahoma City Gas & Electric Railway, the city that jumped from 10,000 in 1900 to 65,000 in 1910, and our franchise was going to expire in five or six years, and we decided we wanted to apply for a new franchise. Our old rates were given in the early days, but they had not been adhered to as improvements and betterments went on; they were reduced. When we applied to the city for a new franchise we reduced the price of municipal arc lamps $2 apiece. We reduced the price per kilowatt to the consumer; the maximum having been 15, we reduced it to 10, and the minimum to 3. We made certain concessions. We did something else. I have got nothing to conceal from

you. We agreed to give them 5 per cent of our receipts. The city voted a new franchise, by a large majority, for 25 years. The law had been amended. The largest bond house in the United States had agreed to finance it. They said: "Your franchise should only have been for 21 years, instead of 25 years." A suit was brought which went to the supreme court of the State, and they sustained our contention for 25 years, and we figured that we were all right, but when we went to the bond house that had agreed to take a block of bonds they said: "No, your court may have done that, but my lawyer says that is not the law, and you will have to get a new franchise for only 21 years." And we had to do it. I merely mention that to show you how powerful, in handling any of these propositions, the money end is. We obtained another franchise for only 21 years. We had to submit it again to a popular election.

Now, then, section 4 of the act reads:

And no sale or delivery of power to a distributing company shall be made except upon the written consent of the Secretary of the Interior.

There comes in the same departmental proposition again. The Secretary of the Interior! What has he got to do with it? Why should he have any say about anything, if you please, except in an interstate proposition? Gentlemen, if any of you who are Government men believe that the State commissions do not regulate, you are mistaken. Try them. They have that power, and they will exercise it. It is absolutely necessary to amend section 4 or one could not make any transfers, even by mortgage issued for the bona fide purpose of financing the business. I think we will all agree that an amendment is necessary.

Mr. RAKER. A trust deed?

Mr. FLYNN. Yes; that is what it amounts to.

With reference to the balance of that provision, "to any transferee not having the capacity of lessee as defined hereunder," if you do not leave this bill stand on the amendment suggested in line 5, section 1, if you include the individual, then those lines ought to be stricken out. That is, the last half of it should be stricken out.

I do not know whether intentionally or not, Mr. Chairman, but on page 3, lines 23 and 24, with reference to the question of fair value—that has been thrashed out here a good deal, but I want to call your attention to it. As this strikes me, it provides that the Government, if it desires to take over certain property, shall take it at actual cost, just as you have it now, of rights of way, water rights, lands, and interests therein purchased and used by the lessee in the generation and distribution of electrical energy under the lease; and, second, the reasonable valuation of all other property taken over, including structures and fixtures acquired, erected, or placed upon the lands and included in the generation or distribution plant, and which are dependent as herein above set forth, and then, further down, "reasonable value."

Can it be possible that the thought of the framers of this bill—and it is subject to that construction—can be that the Government shall take over the right of way in certain property at actual cost; but if, in the operation of the plant, the machinery has diminished in value, then you will pay not the cost, but the reasonable price? Is it in-

tended to make a distinction? I do not know, but I call the attention of the committee to that suggestion for what it is worth. I think it is susceptible to the interpretation which I placed on it, and I do not think that is your intention. I think that "the reasonable value of all other property" is intended to distinguish between cost and what it is worth. I do not know that you have inquired into that.

Now, the man who buys public-service properties has the unearned increment and the intangible element in it always. There is a good deal of talk about stock issues. Why, do you gentlemen know that the capital stock of 80 or 90 per cent of the public-service corporations in this country is not worth the paper that it is written on except for voting purposes, and that is for control. You can go out on the market and you can buy it up at from 3 cents to 10 cents or 15 cents or 20 cents on the dollar. Why? Because it does not earn anything. Most of the corporations are very busy trying to earn enough to pay their fixed charges, including their bond interest. The large stock of corporations. It sounds big, and when you gentlemen are on the stump for reelection you will find demagogues who are opposing you will charge that you favored this and that big corporation. They will roll up figures, saying "Capital stock, bonds, etc." It is a dream. The stock exists, I grant you, but it is useful to nobody except the person that operates the property and seldom, if ever, pays any dividend.

It was suggested here a moment ago, Mr. Chairman, that the stock carried control. That is true. Suppose you had a $1,000 bond in an electric property. You are going to find out who is handling it; and if the operator has not a good record and a good reputation, you will not buy it.

Mr. RAKER. If the party in control is a good first-class man.

Mr. FLYNN. That is it, exactly, and if you believe that he is not then you will not touch it with a 40-foot pole.

Now, I think probably that there will be no objection on the part of any member of the committee to an amendment after line 11, page 4, reading:

Provided further, That if at the expiration of any lease period the properties shall not be taken over as herein provided, the lease covering said properties shall continue until the right of taking over the properties herein provided shall have been exercised.

With reference to section 6 let me say: I favor that provision substantially as you have it. I do not know whether anybody else who has spoken here with reference to the bill does or does not. I will tell you why I favor it. I think it is one of the strong features and one of the few strong features in the bill that will appeal to capital and the Government as well. I think it strengthens the proposition, because you say to the investor, "We will give you a lease for 40 years, and at the end of that time we reserve the right to take it over on certain conditions." I do not believe the Government will ever exercise that right, but I believe it ought to have it. I am with you on that proposition, and the man who puts his money in says, "Well, we are all right in this, for even at the end of 50 years if the Government takes it they will give us at least our money back out of it." I think that is a very strong proposition in favor of the bill.

Mr. RAKER. Provided, of course, that the proper price or proper method is fixed upon taking it over.

Mr. FLYNN. Yes. I do not believe you will take it over, but then I think it is a good thing for the Government to have that power. I do not think there will be any dispute with reference to the amendment that in the issuance of a new lease preference right shall be given to the original lessee.

Mr. RAKER. You think that is a good provision, do you?

Mr. FLYNN. Oh, yes; I think it ought to be in there.

We now come to section 7, which reads:

That where, in the judgment of the Secretary of the Interior, the public interest requires or justifies the execution by any lessee of contracts for the sale and delivery of electrical energy for periods extending beyond the lease, such contracts may be entered into upon the approval of the Secretary of the Interior.

And the amendment reads—

may be entered into upon the approval of the public-service commission or similar authority in the State in which the sale or delivery of power is made, or in case no such commission or similar authority exists, then upon the approval of the Secretary of the Interior.

Suppose you are running a property, and you run it 45 years. Here is a mill down here, a grist mill, a flour mill, or something else, and they say, "Here, I will take your power, but I do not want to install motors and go to other expense unless I can get a 10-year or 15-year contract." All right, your bill undertakes to cover that. But how? I go to you and I make a 15-year contract with you, and your lease only runs five years. You can not answer me whether you can do it or not; you must run down to Washington to see the Secretary of the Interior and see whether or not he will approve of it.

Mr. RAKER. He ought to have the right to do it.

Mr. FLYNN. Well, I am willing, from my viewpoint, to let the corporation commission of the State have jurisdiction of that subject. It should not be done here in Washington.

Let me tell you something about Washington. I have had as much experience here as anybody in these departments. When we adopted the constitution in the State of Oklahoma for admission to the Union our people would have adopted any provision to get into the Union and get rid of Washington. Nobody ever went there during the 15 years that I have been familiar with it that received any nicer treatment from all of them than I have. Therefore I say all my criticisms of their weaknesses and of their acts are not personal with reference to any individual or any ill feeling that I have for them. I believe in the present Secretary of the Interior. He is the only one we have had in recent years from the West, and all know it. There is no use of talking about a Secretary of the Interior being from the West who lives in Chicago or St. Louis or in Ohio——

Mr. RAKER (interposing). Or down in Georgia.

Mr. FLYNN. He might just as well be there, or he might as well live in New England. Mr. Lane has the right to say that he is from the West. He is not a carpetbagger; he has a right to say he is from the West. I believe he is in sympathy with the development of the country, but you know and I know that no matter how he may desire to exercise his decision, that he may be continually hampered from pillar to post by gentlemen who have been here wanting certain rules and regulations, the effect of which is to keep back development. Why, from what I have heard here in this committee room you would

think that the Government had a gold mine in water powers out West because somebody rode by there on horseback, just like the congressional committees used to, to investigate territorial matters. They would come down and make a report and they would seldom get out of the Pullman car. These people that have reserved these rights I am not finding fault with at all, but they overestimate, many of them. Men without restriction have lost lots of money backing their own judgment in water powers. I have done it in public-service bonds. I bought some for which I paid 90 cents, which I offered a week ago for 60 cents, and the best offer I could get was 50 cents. The judgment of man is very often wrong. I was reading the statement of the engineer who built that Keokuk Dam that was talked about last night. I do not know anything about it, but he says that in his estimates he missed its cost 4¾ per cent in the cost of engineering, and $2,500,000 on the estimate on what he expected to pay for land.

Mr. RAKER. It is altogether an estimate.

Mr. FLYNN. Absolutely.

Now then, we come down to section 8, and, Mr. Chairman, I would like to have your ear on this. This reads:

> The Secretary of the Interior is authorized to fix in the lease and collect charges or rentals for all power developed and sold or used by the lessee for any purpose other than the operation of the plant, etc.

Gentlemen, with that provision in there, with the limitations you have in the bill, in my honest judgment, you might as well leave the present permit system in force. Some positive charge should be provided. Now, there ought to be a way to get around this. The question has been asked here, "Well, some horsepowers will stand more than others?" I will tell you what I would do if I were on this committee. I would fix a maximum and let the Secretary be governed by that, but I would not let him fix the maximum if I were in Congress handling this bill. I would say what the maximum would be, and when the Secretary would have discretion to regulate up to that, and then if the power project will not stand 10 cents, he can let it go at 5; if it will stand 30 cents, he will put that down; and if it will stand 40 cents, let him put that on. Put your limit at 20, 30, or 40 cents, if you want to, but I think you ought to put a limit, then a man knows where he stands and how to proceed. Make it definite by law not by regulation.

Mr. RAKER. In other words, he can always figure that it will not go above the maximum.

Mr. FLYNN. Absolutely. Fix your maximum and let the Secretary then use his judgment with reference to whether he thinks the traffic will bear the maximum or not.

The CHAIRMAN. Mr. Flynn, would you at the same time place a minimum upon such a provision as that?

Mr. FLYNN. Of course, Mr. Chairman, that is one of the worst difficulties you are up against. I do not know how you do now, but in my days we used to fix those things in conference. I do not know whether you still have conference committees in Congress or not. [Laughter.]

The CHAIRMAN. They are still here.

Mr. FLYNN. Section 9 is stricken out entirely by amendment. I think, in the interest of the bill and in the interest of avoiding com-

mon criticism from the Western States, whether you enact a water-power legislation for the entire United States, very truly, and you say any State that has not a public-service commission can not have the benefit of this bill. I do not think that is right. I think it is using the soft pedal pretty hard. I think, as suggested, what you ought to do is to provide that any State not having a public-service commission to regulate rates, then the Secretary of the Interior may regulate. There should be regulation. I am for regulation. I understand your committee has a policy. I am not going to get into any States' rights argument as to whether the State should regulate or the Federal Government, because, from what I have observed here, you have decided that the time has arrived when you are going to spell Nation with a big "N." I have always preached that, but I think that is now the feeling of Congress and the Government and the conservationists, if you please, and they will be heard from. It is true none of them have put a dollar into any public service proposition. They would not endure hardships and chance and go out in the wilds to find out whether there was a water power to be developed, and if it was to be developed what money they had inherited from the unearned increment [laughter] would not go in. I have no quarrel with any man who is fortunate enough to have inherited wealth. I think if I have luck my children will. But when they tell you we have a great big thing which is undeveloped here that is worth millions they are dreaming. Development may make it valuable. On the floor of Congress, Mr. Chairman, the statement was made that down in our State we have either four or fourteen billion dollars' worth of coal. What is the consequence? We never had any legislation about it. Everybody took to cover. [Laughter.] We have been trying ever since to get the surface of it. I believe the suggestion made by Mr. Pierce with reference to this is a good one.

I think when statements and figures are presented it might be well to always qualify them a little bit. The statement was made here by a Government witness that under the Big Creek permit a 44,000 horsepower development was being financed, but they forgot to tell you that not only the property which the Government granted them was covered by mortgage, but the millions of other property owned was also covered by it, and over and above all, that the personal estate of the Huntingtons guaranteed not only the principal but the interest. Of course; but that was financed. It was not by virtue of a revocable permit, it was financed.

Now, Mr. Chairman, I think I have said enough and I have taken my time, and I want to thank you.

Mr. RAKER. You did not say anything about that repealing proposition. I would like to have you discuss that.

Mr. FLYNN. You refer to striking out section 14. There is no objection to discussing that at all. That is merely a suggestion so as to prevent repeal; that is all. The Government now has the act of 1901 and other rights. Let the department construe it as it may. This question may arise if you leave section 14 stand. It will not affect my theory of what I am interested in one way or the other. If you repeal that I think you may be up against the proposition that you did something that you did not mean to do.

Mr. RAKER. In other words, your theory is, from your observation and experience, we ought to leave that out and consider this act as it applies and allow the others to go on as best they can and get all the benefits they can?

Mr. FLYNN. The department is bound to straighten that matter out. If it is the intention of Congress to repeal everything that is on the statute books for the little fellow and big fellow alike, organizations, etc., I do not think, then, you are taking any chance in repealing section 14, but I think our suggestion of striking out that section is in the interest of the Government. There is no interest that we have in it whatever. We view it from a purely governmental standpoint.

Mr. BROWN. I would like to ask you—I have a statement here which shows that in 1913 the amount of money, hundreds of billions of securities of national banks in receivers, was 32 cents on $100, and the amount for gas and electric companies was only 37 cents per $100. You spoke very feelingly a few moments ago about the number of companies that are insolvent, and this statement, if it is correct, would show that those companies were about as safe as national banks are.

Mr. FLYNN. I am glad you asked that question. Will you let me insert in the record just one statement, about 15 lines long, showing the facts about water-power companies? This has been presented already in another hearing on this same subject elsewhere.

Mr. BROWN. I would like to get at the facts in this matter.

Mr. FLYNN. Have you seen this statement?

Mr. BROWN. No; where is that from?

Mr. FLYNN. This statement was furnished by Mr. Cooper, the man who built the Keokuk Dam, in the hearings before the Interstate and Foreign Commerce Committee, this Congress, March 11 and April 14. He has here a partial list of water-power developments which have been either through receiverships or proved bad investments, and he gives here the names of the companies and the horsepower.

The CHAIRMAN. Well, I think it would be a very good idea to have that in the record.

Mr. RAKER. Would it be a good idea to insert in the record right following that that there are about 50 companies that declined investment in that company previous to its financing?

Mr. FLYNN. That statement is here also.

Mr. RAKER. I understand that.

Mr. FLYNN. I am not here antagonizing anything. I want the bill.

Mr. RAKER. We want the bill, too.

Mr. FLYNN. I am for legislation.

Here is the list. I will put it in if you insist.

The CHAIRMAN. Without objection, it will go in.

Mr. FLYNN. Then, I think I had better change my language a little with respect to it, and this is as I understand it: I submit a list of power companies that have not been profitable investments and also a list of financial interests declining the Keokuk and Hamilton water-power investment previous to its financing. [The paper referred to will be found as Exhibit L in the appendix.]

STATEMENT OF MR. P. M. NORBOE, ASSISTANT STATE ENGINEER, SACRAMENTO, CAL.

The CHAIRMAN. Mr. Norboe, will you state your full name and your position in California, and for whom you appear, if anyone?

Mr. NORBOE. P. M. Norboe. I am assistant State engineer of California. I am appearing at the request of Mr. Kent. I did not come to Washington to appear before this committee at all. I came here on other business, but being permitted to listen to some of the discussions in the last few days, and being greatly interested, I made some notes which Mr. Kent desired to have me present.

In these modern times we are assuming, or at least many of us have come to regard certain elements upon which depend the comfort, prosperity, and happiness of man as belonging inherently to the people as a whole, and that each and all are entitled to an equal share in the benefits that may flow from them. Those elements we call natural resources. One of them is water and the varied uses to which it may be applied. The people acting collectively through their Government have intrusted to the States the duty of distributing the benefits to be derived from the use of water to the beneficiaries in reach within their several boundaries. The trust has not always been administered either wisely or well. Man's genius has found a method of drawing out from the element water much of its potentiality to be applied for his welfare, but the State has sometimes failed to safeguard the interests of its wards and to provide for the equitable distribution of the benefits to the rightful heir.

Another of these elements of natural resources is land, and the use of the first element in this connection is impossible excepting in conjunction with the use of the second. The ownership of some of the lands yet rests in the people, and the complete development of the use of the water for power or other purposes can not be attained without the use of public lands in connection therewith.

It seems to be the object of the bill under discussion to retain, conserve, and protect the ownership by the people in the public lands while at the same time to correlate their use with the use of the waters so that the full development of the latter may be effected for the greatest benefit of the public and, further, to provide the machinery for the conservation and distribution of the benefits obtained.

Referring to the bill, page 1, lines 3 and 4, it has been urged that the word "empowered" should be stricken out and the word "required" substituted therefor, upon the grounds that the Secretary of the Interior, if allowed discretion in the matter, might refuse to grant a lease to a meritorious project. It is admitted that under the administration of the present Secretary such a contingency would be impossible, a statement which finds affirmative response in the heart of every Californian. But, Mr. Chairman, it is also conceivable that if the Secretary is directed without the right to exercise discretion to grant leases meretricious projects may sometimes be favored. Unless the Congress reserves to itself the approval of all leases, its agents must be trusted to give both the people and the promoter a square deal.

Page 1, line 9, fixes the term of the lease at not to exceed 50 years. It has been suggested that the term be made imperatively 50 years, because if the termination be definitely fixed it appears more attrac-

tive to the bond buyer who can see that his loan will have a definite time to run without disturbance. The terms of the lease itself, if it be for fifty years or less, may fix the terminal date just as definitely before the bond buyer is called in.

There may be occasions when the lessee does not want so strong a lease. He may not be compelled to consult the bond buyer at all. There may be times and places where the lessee only requires the concession for a short time, and without having to borrow money to finance his project.

As an example that might have a parallel: When the Roosevelt Dam was about to be built by the Reclamation Service, the service built a hydroelectric plant involving the construction of 19 miles of canal and 6 tunnels and sold the electricity generated at cost to the contractor building the dam. A private owner might do the same thing, or if the Government had not furnished him the power the contractor might well have built the plant himself for the sake of the cheap power, and having completed his contract he would have no further use for the plant.

The State of California has a State road in the high Sierras, which is of little value unless it shall be extended. If ever construction is undertaken it is probable that a small water-power plant will furnish the cheapest power that can be obtained for drilling either with compressed air or electric-driven machinery. The State will not need the lease for more than five years, and it does not seem necessary in that case to make it 50 years.

Someone has asked why is the term fixed at 50 years, rather than a longer or shorter period. Perhaps the one who wrote that line had no definite reason in mind in selecting the number 50, but rather fixed upon it from habit of thought. Custom, which control the actions of men as certainly as fashion directs the conduct of women, prescribes more often than otherwise in the business world that long leases shall terminate in 50 years. Nearly all franchises for operation of street cars, ferries, telegraph and telephone service, etc., are given for 50 years. A great majority of incorporations are made for 50 years. If no actuary has figured out 50 as the probable expectancy of the life of such things, custom seems to have fixed it for the majority of cases, and why not continue the custom?

Section 2 directs that leases shall provide for the "reasonable development of power." It might be more specific by stating what is meant by a "reasonable development." The law governing the appropriation of water in California provides that work shall begin within 60 days after a notice of intention has been posted and that work shall be "diligently prosecuted until completion." No definition as to what constitutes diligence; no one is appointed to see that diligence is used, and no authority is delegated to determine when "completion" is accomplished. Men have been known to file on a water right and to diligently prosecute the work of construction to the extent of keeping a hired man at work with a pick and shovel for a few weeks in each summer for many years before being able to sell at a big price the rights reserved by this "diligence." Of course under this bill the Secretary of the Interior will prescribe the degree of diligence required. A law recently enacted in California for the control of appropriations of water for power purposes provides that

an intending user shall first obtain a permit from the board of water-power commissioners, and within six months after such permit is granted he must begin actual construction and must prosecute it with reasonable diligence, on a scale proportionate to the magnitude of the undertaking and the work must be completed within a reasonable time, specified in the permit, but not to exceed five years, and upon completion of the work a license shall be issued for a term not exceeding 40 years. If any change in the wording of the bill shall be made in order that this particular wording shall be more specific, it might be well to take the provision of the California statute.

Page 3, lines 6 to 11, inclusive, forbid combinations, agreements, or understandings to limit output, etc., or to fix, maintain, or increase prices. If agreements, etc., to fix, maintain, or increase prices should be construed to mean the regulation of State utility boards fixing rates, it would seriously interfere with those States who do regulate such matters through those public agencies. If the language can be construed to apply to such agreements, it should be amended.

Section 4 provides that no lease shall be assigned or transferred nor sale of power made to a distributing company without the written consent of the Secretary of the Interior. This has been objected to as likely to cause too much delay in obtaining the consent of the Secretary. In specifications prepared by engineers for the building of such works as would be constructed under these leases proposed by this bill, a very common provision recites that "the contractor shall not assign, transfer, or sublet any part of his contract without the written consent of the engineer." The contractor and his work may be in San Diego and the engineer in New York. If it is applicable in one case it may be equally so in the other without imposing more hardships.

Section 8 delegates to the Secretary of the Interior authority to fix the rate or rental charge for the use of the public lands and other property of the United States. The power of Congress to delegate such authority has been challenged. Such delegated authority has been given and is being exercised in nearly every department of the Government, and whether it has ever been assailed in court or not the lawyer members of the committee probably know. If there is any doubt upon the question it would better be settled by making the provision specific as to the amount the Secretary may collect. The phraseology of the section may be open to question if it ever goes to the courts. The section says that for the occupancy and use of lands or other property of the United States the Secretary is authorized to collect charges or rentals for all power developed or sold. Let a case predicated upon the construction of that sentence be submitted to such a court as the one which is said to have discharged a horse thief, because the animal sold was a mare, and it might be decided that the Secretary was collecting rental for use of Government property for power generated mostly on private property. The method followed by the Forestry Service in assessing a charge for the use of Government land for hydroelectric development is to estimate the net amount of horsepower that is available, assess a tax at so much per horsepower, and collect that rate according to the ratio the Government land used, including the watershed from which the water flows to the head works, bears to all the land necessary for the enterprise.

Mr. RAKER. Has that encouraged a good deal of the development of the waterpower in the West under the Forest Service, Mr. Norboe?

Mr. NORBOE. I do not know what effect it has had; whether it has had any effect.

Mr. RAKER. It has been stated by persons who appeared here, the engineers, that within the last six years there had been practically no hydroelectric development of new plants in California—I mean in the public-domain States.

Mr. NORBOE. I understood from the statements made by witnesses and the questions asked of them here, that that hesitancy on the part of the investor was due to the irrevocable stipulation more than anything else.

Mr. RAKER. For the benefit of the committee, in view of your familiarity with the State, will you state whether there has been within the last six years any appreciable development of any hydroelectric energy that was not started before that time?

Mr. NORBOE. There has not been a great deal. There have been applications to the water-power commission for something over 800,000 horsepower within the last 13 months.

Mr. RAKER. That is, applications to the State of California, under its public service commission?

Mr. NORBOE. Yes, sir.

Mr. RAKER. But I am referring to that which has been developed by virtue of applications to the Forest Service under the Government.

Mr. NORBOE. Well, I do not know as to that. Practically all of the development would come under the jurisdiction of the California water-power commission, and would have to be developed largely on public land.

Mr. RAKER. Public domain? I see.

Mr. NORBOE. So, since there has been over 800,000 horsepower applied for I take it that they are not altogether scared out on the proposition.

Mr. RAKER. You mean under the State regulation?

Mr. NORBOE. Certainly. But they have got to go to the Forest Service before they can complete any arrangements with the State.

Mr. RAKER. How much of that, if you know, has been actually put in operation?

Mr. NORBOE. I do not know. Something over half of it has been rejected by the water-power commission.

Mr. RAKER. And the other half by the Forest Service?

Mr. NORBOE. I do not know what they did.

Mr. RAKER. That is all.

Mr. NORBOE. No doubt if these details are left to the Secretary he will adopt some such plan as just outlined or a better one, and this is only offered now as a suggestion for avoiding what might lead to a wrong interpretation of the meaning of the bill.

Mr. RAKER. The only thing I was trying to get from you is your opinion with relation to this claim that the irrevocable permit has hampered them so that they could not do the work.

Mr. NORBOE. I think that is admitted on all sides.

In the discussions in this hearing something has been said about the bill only providing for leases to public service corporations. A reading fails to discover such limitations but if the bill does not per-

mit an individual to use Government land where necessary to operate a little plant for his own benefit, it should be amended. There are many small tracts which will eventually be made homes, and where the running streams may be utilized to operate the small machinery of the farm.

If it has not already been urged before this committee, it undoubtedly will be that to impose a rental upon the promoter of a power project when he must pay the State and county taxes and also pay for the use of the water as is required in California for all rights acquired since January 2, 1912, it amounts to double taxation. If I lease a lot from you, Mr. Chairman, build a garage upon it and rent from Judge Raker an automobile, is it double taxation for me to pay you the rental for your lot, pay taxes on my building, and pay Judge Raker for the use of machine? I do not consider that double taxation.

Another thing. We are told that to impose a rental tax for the use of public land must be eventually paid by the public, which consumes the product, and it is simply a case of "robbing Peter to pay Paul." Well, if that is the result, why should not Peter, the community who is benefited by cheap power and better service, pay something to reimburse Paul, the National Government, for the cost of policing and administering his property which is used for Peter's benefit—not a matter of revenue, but simply the cost of administration? But is it true that a reasonable rental charge must be added to the service charge? If so, then it takes some of the power companies a long time to adjust their rates. Some years ago a power company in California was furnishing power to farmers for pumping water with which to irrigate their lands. A flat rate was charged of $50 per horsepower per annum. It was claimed that it was necessary to charge that rate in order to pay interest on the investment. It is true that at about that time the concern was mortgaged to a trust company for $9,000,000, although there was not tangible evidence of nearly that much investment. The United States Forestry Service had begun the practice of levying a rental tax for the use of public lands by such enterprises, and in this particular case a tax of 75 cents a horsepower, if I remember correctly, was assessed for the power produced and so much of it collected for as was dependent upon the use of public lands. This was considered a great hardship upon a struggling "infant industry," and speeches were made and articles were printed to show the injustice of it. It was strongly contended that such an unjust burden would retard development, and, anyway if persisted in, the burden would be shifted to the consumer, who could ill afford it. Emissaries were sent to Washington to show the administration what an unjust thing it was to fix this tax so high when the poor farmer would eventually have to pay it. The plea in behalf of the farmer was successful to the extent of obtaining a reduction of the tax to 35 cents a horsepower a year. That was more than six years ago. It is not claimed that $50 a year is too much; but if it were true that the consumers' rate should be raised to pay the tax placed upon the producer, then when the producer's expenses were cut down the farmer should have received a corresponding reduction in his annual power bill; but a few weeks ago I was down in that region and asked what they were paying for power to pump their water, and I was told $50—not $49.60, but still $50.

Mr. CHURCH. $50 per horsepower there now?

Mr. NORBOE. That is what I was told about six weeks ago.

Mr. RAKER. Where is that? What place is that?

Mr. NORBOE. Fresno.

The tax originally charged by the Forest Service is less than 2 per cent of the selling price charged the farmer. Now, all over the country electric light and power companies, street railroads, and other utility corporations are paying 2 per cent of their gross receipts for the privilege of using the public highway for the conduct of their business.

Mr. SINNOTT. Has that imposition that you speak of been taken up by the public utilities commission of your State?

Mr. NORBOE. I do not know.

Mr. RAKER. They could take it up?

Mr. NORBOE. They could take it up. I do not know that the farmers considered that as an imposition.

Mr. RAKER. From your observation now, and from your knowledge of the bill, the utilities commission would have absolute control over this to compel them to reduce their charge to a reasonable rate?

Mr. NORBOE. If that is not reasonable they could compel them to reduce it to what they considered to be a reasonable charge upon the complaint of anyone who was using that right.

The CHAIRMAN. Is it now contended that $50 per horsepower is reasonable, to pump water?

Mr. NORBOE. The word "reasonable" is a relative word. The cost of pumping water in the San Joaquin Valley amounts, as a general average, to about 2 cents an acre-foot of water per foot-lift. Sometimes, where they have appliances of the proper kind and conditions just right, they get it for a little less, and the same ruling price applies equally to the electric-driven plant, to the internal-combustion engine plants, and the small steam plants.

Mr. RAKER. On that $50 charge, now, I was just asking some gentlemen here some questions. They tell me that that would be a very moderate charge—$50 per year per horsepower. You could not keep a horse two months for that.

Mr. NORBOE. Oh, if you are going to convert it into horseflesh power, of course $50 would be immeasurably cheaper than a horse could do the work. In the first place a horse could not do the work of a horsepower.

Mr. RAKER. Mr. Finney, who has been on the stand, says that would be a very modest rate; sometimes it would be much higher and sometimes a little lower, but ordinarily not much lower.

Mr. NORBOE. We are all figuring now on the question of regulation and preventing monopoly and subjecting it to control.

All through the Sacramento Valley the ruling charge now for electricity for pumping, etc., is 1 cent per kilowatt hour. That amounts, I think, to a little over $87 per horsepower per year if it is used all the time. Of course there are a good many little jokers in all these calculations.

Mr. RAKER. Thirty-seven cents per kilowatt?

Mr. NORBOE. No; 1 cent per hour per kilowatt, which would amount to a little over $87 a year.

Mr. RAKER. Per horsepower?

Mr. CHARLES A. FINNEY. One cent per kilowatt hour is the equivalent of what?

Mr. NORBOE. About $87 and a fraction per year.

Mr. FINNEY. Oh, no, sir.

Mr. RAKER. It would make how many horsepower per year?

Mr. NORBOE. I have not figured it out. I was only trying to get at it mentally. But, at any rate, it is a much higher rate than $50 per horsepower.

Mr. FINNEY. No, sir.

Mr. NORBOE. It is not?

Mr. FINNEY. No, sir; it is very much less than $50.

Mr. NORBOE. There have been some contracts there as low as three-fourths of a cent, but it is believed that they will not be renewed when they expire.

Mr. RAKER. I think Mr. Norboe is like I am on the matter. The question is, we want regulation or control, we want cheap power for the people, and we want to encourage development.

Mr. NORBOE. Yes.

Mr. RAKER. That is it.

Mr. NORBOE. I should not like to have this matter applied in the States which have not progressed to what we think is our standard and adopt them under their local regulations.

The CHAIRMAN. You think that provision is all right there, then?

Mr. NORBOE. No. As I understood the gentleman who just left the stand, a State that has not yet adopted local regulation would be out of the game altogether.

Mr. RAKER. They ought to be permitted to go just the same, under regulation by the Secretary.

Mr. NORBOE. Let the Secretary regulate it; yes.

Mr. CHARLES A. FINNEY. Mr. Chairman, a cent per kilowatt hour figures out on the basis of 24 hours about $87 or $65 per horsepower.

Mr. NORBOE. That is what I thought.

Mr. FINNEY. But it is not fair to say that that is the price, because it is not a 24-hour service.

Mr. NORBOE. Whether it is or not, I have heard of no quarrel with the cost at that price.

Mr. FINNEY. A cent per kilowatt hour is a very low prce for any kind of power.

Mr. NORBOE. I do not think that most of us in California have any quarrel with the people that are furnishing us with power. In the city of Sacramento we can get power for household purposes for 3 cents per kilowatt on the meter basis.

The CHAIRMAN. There is a general feeling in California that they need some legislative control of water-power propositions, is there not?

Mr. NORBOE. I do not think that feeling is very strong there that California needs it just now, but California, I think, feels that the enactment of this bill 10 or 15 years ago would have been of great benefit to the State. When the bill for water power was pending, during the four months before the bill became a law, there were notices of appropriation published in one newspaper that aggregated over a million horsepower.

The CHAIRMAN. In private ownership?

Mr. NORBOE. No; a great deal of it in speculation; fellows rushing in to get in on the ground floor, and they had no backing, and very often their schemes were visionary, and they failed to complete them.

The CHAIRMAN. What became of their power sites?

Mr. NORBOE. They lapsed.

Mr. SINNOTT. They all died a natural death on account of failure to go ahead with the work.

Mr. NORBOE. They all died a natural death.

The CHAIRMAN. Where are the power sites now?

Mr. NORBOE. If there were any there they are there now.

Mr. CHURCH. Are they in private ownership?

Mr. NORBOE. Some of them are in private ownership and some of them on the public domain. And while this was going on, there was quite a proportion of this million horsepower that was covered by notices of appropriation by the live-going power companies.

Mr. RAKER. Some of those water powers were upon the Pitt River and the Sacramento River, and other places, where they intended to turn in and use the entire river flow at certain junctions in the canyons?

Mr. NORBOE. Oh, yes.

Mr. RAKER. But all of those have been, under our State law, required to begin work within 60 days, and the law requires a continuation of work and actual developmnt.

Mr. NORBOE. With reasonable diligence.

Mr. RAKER. With reasonable diligence, and then no man can use any water unless he uses it for a beneficial purpose.

Mr. NORBOE. No; but a good many power companies in California originally obtained whatever rights they have under the general appropriation law, which allowed them to use it for any purpose, and if they increased their appropriations by getting in before this restricted bill came into effect of course they have got that much more to apply hereafter.

Mr. RAKER. Now, Mr. Norboe, so that we may get this before the committee fully, would the statement of a $50 charge per horsepower per year—and it is stated it is low—do you know of any companies in California that have appropriated water, electric power companies or otherwise, that are monopolizing the industry in any particular locality?

Mr. CHURCH. That is, to the detriment of the locality.

Mr. RAKER. Yes; to the detriment of the locality, to the detriment of the State, or the detriment of the Nation.

Mr. NORBOE. Not that I know of; no, sir. On the other hand, our public utility commission will not permit it.

Mr. RAKER. Then, in other words, so that it may go in the record, any water power that a man has developed, any right that he may have filed on, any public-service corporation in the State of California to-day must give the public a good, fair service, at a reasonable rate?

Mr. NORBOE. Yes, sir.

Mr. RAKER. And he can not water his stock and hold up the public in the way of collecting rates for water?

Mr. NORBOE. No. Whatever watering of stock has been done had to be done before the law became effective.

Mr. RAKER. In other words, to squeeze out the water.

The CHAIRMAN. When did you get this law?

Mr. NORBOE. In January, 1912.

Mr. SINNOTT. That was after we had passed the Oregon law.

The CHAIRMAN. You gentlemen saw the light after we in Oklahoma, in 1907, made a constitutional law to that end.

(The committee took a recess to 10 o'clock a. m., Wednesday, April 6, 1914.)

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Washington, D. C., May 6, 1914.

The committee assembled at 10.30 o'clock a. m., Hon. Scott Ferris (chairman) presiding.

Present: Messrs. Graham, Taylor of Colorado, Raker, Fergusson, Hayden, Brown, Stout, Church, French, La Follette, Kent, Sinnott, Johnson, Thomson, and Cantor.

The CHAIRMAN. Gentlemen of the committee, we have heard from the engineers and the power people, and those outside of the administration circles, with reference to the power bill under consideration (H. R. 14893); and we have invited Secretary Lane this morning to come up and give us his views on the power bill, and, if possible, to help us solve the knotty problems that confront us.

Secretary Lane, do you desire to make a statement, or to have the members of the committee ask you questions, or how do you desire to proceed?

STATEMENT OF HON. FRANKLIN K. LANE, SECRETARY OF THE INTERIOR.

Secretary LANE. Mr. Chairman and gentlemen: I have no formal statement to make. I want to give you just an outline of the manner in which this bill came to be drafted.

Last year, during the summer, I went through the West to find what the problems were that the West wanted dealt with.

I wanted particularly to find what reason they had for antagonism to the conduct of my department; and to see if it was possible to bring the West and the Federal Government into alignment and into more perfect sympathy.

I visited the parks and the reclamation projects, many cities, and the various land offices and Indian reservations in an effort, primarily, to find out what was the matter with us back here, and why there should be antagonism to us; because it has been manifest for several years that the Interior Department was not regarded in the highest favor in the West.

And so, when I returned, I promulgated a program of proposed legislation, which I incorporated in a suggestive way in my annual report.

That included a bill for the construction of a railroad in Alaska. I found strong enthusiasm for that in the northwestern section of the country particularly; it included also a coal-leasing bill for Alaska; a general leasing bill, covering coal, oil, and phosphate; some strong insistent and very persuasive demands for a change in our law respecting our irrigation projects, and the manner of pay-

ment to the United States for the water rights on those projects; and almost everywhere that I went, when I met with men who were interested in the development of industries, men who were interested in the development of towns, or in banking and the sale of bonds, I found there strong criticism of the present legislation regarding water power.

So when I made my report I thought that the wise thing to do was to meet the demand that was made, which was, primarily, that there should be a definiteness in the term. I talked with men of all kinds upon this question, and the real fundamental objection—and the only serious objection—that has been raised to the present condition of things is that we grant, under present law, a license, a revocable permit, which makes it impossible to float such hydroelectric propositions.

I found also throughout the West a feeling that in the course of time the States themselves and the municipalities would see the advisability of having the projects in their own hands. All felt that this was a very new proposition; that within a quarter of a century the whole industry of hydroelectric development had arisen, and that it was altogether too early for us as a people, not knowing what the future would bring forth—altogether too early for us to say that we had finally determined to allow to pass out of our hands for all time the power possibilities of the country, but everybody insisted that there should be some means immediately presented by which there could be present development.

So the question naturally arose, "How can we do this—give a fixed term, permitting development at once, and at the same time reserve for the future the determination of the question as to just what will be done with this power, so that we do not estop ourselves from realizing the highest possibility of this power as against the future?"

Then, when I returned, I talked with a large number of engineers—I suppose, altogether, with 20 or 25. I chose the leading engineers of the country, so far as I could find out who they were. I wrote to some who could not come to Washington. I sent a man who was familiar with these questions, who has been a member of a State legislature and has drafted one or two bills upon this question, to meet the various engineers and financiers in various parts of the country. He went to Boston, New York, and Chicago, and to other cities, and held informal hearings upon this question; and he brought back the report that the primary trouble was, as I have said before, that the Secretary of the Interior had the power now to revoke any permits, and that that was unfair to capital; there was no certainty as to what the future would hold, and therefore there must be a fixed term.

So these were the two ideas upon which this bill was drafted; and I think that those gentlemen from the West who participated in the drafting of this bill will bear me out—some of them are here—that there should be a fixed term, so that there can be immediate development, and that there should be a reversion to the Government at the end of that time, with the possibility of making new terms at the end of the period. It may be that at the end of 50 years we will find that it is the wise thing to allow these leases to stand and be conducted

in present hands or new leases to be made to other people of the same character. It may also be that there will, in the meantime, have grown up large communities in the neighborhood, and that those municipalities will think that they can profit in their industrial development by taking these things into their own hands, or that the States of the West will have devised some method by which they can handle enterprises of this character.

I should myself believe, in the largest extent possible, in decentralizing authority. I think that our purpose should be to let these things go into the hands of those who are near to them and can handle them wisely.

But of course questions of this kind can not be solved along the lines purely of what financiers may desire at the present time. You know that the West is filled with men who have one purpose, and that is to get all the money possible into their community just as soon as possible. I have been engaged in that kind of enterprise myself for a good many years. I know that when we can get $10,000,000 of eastern capital to come in we are willing to make all kinds of concessions by way of inducement. But the function of a committee like this, or of Congress, is to see that what we have got is not unwisely put out of our hands, so that we may not be spendthrifts as a nation.

There are just one or two things that want to be thought of in connection with this bill.

The first is, Is your term sufficient? Fifty years was the term almost universally spoken of to me as being a sufficient term.

Second, upon what conditions are you going to get this property back into the people's hands at the end of that term? Now, I at first thought, and suggested in my report, that we should make the very key of the project, the dam itself, the property of the Government at the end of the period, and that we would buy the remainder of the plant.

Objection was very strongly made by some of the engineers and financiers with whom I talked to that proposition. And when objection was made I thought that it might be properly conceded; but that we must have in our hands the power to say, "This project shall end at a certain time. It shall then go into the people's hands, in some form or another. The people should be compelled to pay nothing more than a reasonable return upon that money which these projectors have put into the property. They should not be allowed to speculate upon the people of the West, by holding these lands for a considerable period of time and then turning them over to us at what might be their speculative value at the end of the period."

The 50-year period, and the fact that we must have the right of way and the other realty that is bought by the projectors themselves, at the price that was paid for it, at its cost to them—those seemed to me to be the two fundamental elements in this measure. And the latter proposition I have taken as an offset to the first proposition which I had in mind, namely, that the dam itself should come to the Government. We set that aside, and accept in lieu thereof the proposition that we shall pay to these people the cost to them of the property that they are compelled to buy.

And there is very good reason for that, reason that it seems to me must appeal to every man who comes from a Western State. Our realty values rise very rapidly. Fifty years from now, what will a strip of land be worth that is 100 feet wide and 200 miles long given to-day by the Government?

Take a State like Montana, which is growing by leaps and bounds. The cities themselves are not yet located in Montana. In every part of Montana there are possibilities of new towns arising. There is a great deal of railroad building in the State. We had 47,000 applications for the last piece of Indian land that we threw open out there. Montana and those Western States are all going to grow rapidly in the next few years. Are we as a Government going to buy back all those rights of way at the end of the period at the price of adjoining land?

Now, I had a good deal of experience with this question of rights of way when I was a member of the Interstate Commerce Commission. I remember, when we heard the famous Spokane case, that testimony was given by the Northern Pacific Railroad Co. that the right of way granted by the Government should be allowed for on the basis of three times the value of adjoining property; that it cost that to the railroad to get its right of way; and therefore, if we were going to take true value as a basis for fixing of rates, this strip of land, which, in the first place, had been given by the United States to the railroad, should be taken at a basis of three times the present value of the adjoining property.

And in that case the engineers of the Northern Pacific Railroad raised the value of their right of way $75,000,000 in one year. We had testimony at one time that the right of way was worth a certain amount. A year later we had other testimony, which was taken before a court, and the difference in the value, according to testimony by the same man, was $75,000,000.

In the Western Advance Rate case, the C., B. & Q. Railroad, in defending its increase in rates, relied upon the legal proposition that it had a right to a return upon the full value of its property.

We asked them what they had put into the property, and they said $275,000,000. We asked them how they came to make out an estimate of $525,000,000, upon which they wished a return. They said that they had taken out of the property $50,000,000 in profits, which they had returned to the property. "Well," we said, "that makes, then, a total of $325,000,000 in cash that you have put in. There is a difference of $200,000,000 left. Why do you want a return upon that $200,000,000?" "Because that is the value of the land that we hold," they said. "That is the unearned increment of our right of way and terminal property since this road was established, and we want the rate increased because, in point of law, under the Smythe case, we are entitled to a return upon that present value."

Now, that is a condition that we ought not to run up against when we are going to buy back these water-power properties.

It seems to me that all the reasonable demand that can be made by men of finance, and every requirement of law, will be fully met if we say to these people, "You can have a reasonable return upon every dollar that you put into this property; and so far as we are concerned we will allow the control of that to go into the hands of those States that have devised machinery for its control; but cer-

tainly if these properties are to revert to the United States or to the States or to the municipalities it can not be that we shall be asked to pay back at the end of 50 years a value that has been given to these properties by the increase in the population of the States themselves."

That would mean, when the State of Montana or the State of Idaho puts $100,000 into an immigration fund to bring people out there, that for every dollar which is expended by that State for the increase in the population of the State they would have to pay $5 at the end of 50 years, or perhaps $20 at the end of 50 years, in the repurchase of those rights-of-way.

Now, I do not find, in my talks with men who are fair upon this proposition, that there is any real solid opposition to this bill. You gentlemen are much more familiar with the details of the measure than I am now, because it is a month I suppose since I have looked it over, and you have heard a volume of testimony upon this matter; but I met, so far as I was concerned, every objection that was raised to the present law in the framing of this measure.

They wanted a fixed term. They did not think that the power should rest in the Secretary to call these permits back at his caprice, and they wanted a minimum of Federal control. Those things are met in this measure.

There is perhaps one general comment that I think might be made. For 6 or 7 years now the West has been exclaiming and declaiming against Congress for its inaction, because legislation has not been devised that will allow for the full development of the West.

The measures that you gentlemen have been passing upon this winter are calculated to meet, wisely I think, the full demand of the West. It is hopeless to attempt to reconcile all the divergent views of the people in our western country. If we are to have progress, if we are not to block our own way and interfere with our own development, we must, some of us, accept less than we think we ought to have. That is the basis of all legislation; it is the basis of all progress.

And while this bill is not precisely as I would draft it myself—and I do not know of any bill that is proposed that would meet my full views; and I do not know of any bill that Congress passes that meets with the approval of every one—this measure is certainly one that will do the work, and it is as near to a reasonable compromise, in the interest of the public, as I think can be devised. It certainly is not an arbitrary measure.

Now, you think over in your mind the objections that have been raised to these bills. They say that "the Federal Government wants to erect itself into a bureaucracy and control the West; you want to make the rate; you want to have all the industries of the West coming here to Washington and asking some petty clerk what may be charged for power." We have obviated that, have we not? That is met in the bill by turning that matter over to the State that can take care of it.

Then they said, "You want to exploit the West on behalf of the East, and make the West support the East. Here we have an internal State, without any seaboard, paying for a large Navy and for the support of the Army, and carrying on large expenditures in which we have no direct interest. Yet you come right into our State where

we have water power, or coal, or oil, and want to take that wealth away from the State and lodge it in the United States Treasury. Those are the things we will not stand for; we will not stand for the enriching of the East at the expense of the West."

We have met that. We have met that by allowing all of the money to be used for the development of the West, and when it is returned from the reclamation fund one-half is to go directly into the treasury of the State.

Now, then, think of the objections that have been raised to the present conditions, and see if they are not all met in the present bill.

But certainly we can not keep on devising new measures that will meet every possible objection that everyone wants to make who wishes to get hold of a project upon the easiest possible terms. That is not the business of Congress. It is not our business to meet a universal demand that the projects of this country shall be developed not as projects, but as bases of speculation.

I say that this measure meets the real criticism of the West—every real criticism that the West has made—and gives it a full chance to realize its water-power possibilities, and that money can be raised under this measure for the development of hydroelectric power.

If that is so, then it seems to me that that is all that anybody can reasonably ask.

Mr. CANTOR. Mr. Chairman, I would like to ask a question: Referring for a moment to the "unearned increment" proposition, Mr. Secretary, you are opposed to the payment by the Government, in reclaiming these plants, of the "unearned increment"?

Secretary LANE. I am.

Mr. THOMSON. Mr. Chairman, may I ask a question?

The CHAIRMAN. Certainly.

Mr. THOMSON. Mr. Secretary, as to the proposition that you outlined with reference to compensation to these individuals or companies that may take leases, upon the taking back of their property by the Government, would you apply that method of compensation both to land that may be covered by the lease, being public land that is taken back, and to land that the individual or the company may have acquired at the beginning of the lease or subsequently from private parties?

Secretary LANE. Of course, they pay nothing for the Government land, so that we would get back as part of our own, and the private land we want to pay them just what they paid for it.

The CHAIRMAN. The thought being, I presume, that it would be as important to the lessee as it would be to the Government to have the entire plant taken over if the Government should take over the leased property?

Secretary LANE. Precisely.

The CHAIRMAN. If part of it was taken away from them, and a lot or remnants were left on their hands, they would be of little or no use to them?

Secretary LANE. Yes; that is correct. That question came up when we were talking about my dam proposition, you remember.

The CHAIRMAN. Yes. Will you allow me, Mr. Secretary, to run over a few of the things that have been brought up in the hearings by the testimony of the various engineers who have appeared before us? I suppose you have not seen the testimony?

Secretary LANE. No, I have not.

The CHAIRMAN. Mr. Pierce, a gentleman who has made quite an impression on the committee and has given a good deal of time to the study of this subject, and has gone so far as to prepare certain amendments to the bill that he thought ought to go in it, has raised certain points in his testimony here. And different engineers and different witnesses who have followed him have rather centered their testimony around these points raised by him, and the record I think will show that the examinations have been largely upon the questions raised by Mr. Pierce. You in your direct statement I think have touched what seems to be the tender point with these people.

The first is on page 1 of the bill—Mr. Secretary, if you will follow the language of the bill as I go through it hurriedly, we can get your ideas on the various points, and it will be of more help to the committee than in any other way.

Secretary LANE. Yes; I shall be glad to do so.

The CHAIRMAN. The first suggestion that Mr. Pierce makes—and I will say that he has been backed up in this by practically all of the engineers who have come before the committee; not by all of them, but by most of them—is that he wants to make it mandatory upon the Secretary of the Interior, rather than merely empowering him to make these leases. In other words, Mr. Pierce wants to have the applicant for the lease come in and have the lease as a matter of law and as a matter of course, when he complies with the conditions that the law provides. And his thought was that to lease it too much to the discretion of the department would give rise to complaints of favoritism, and would give rise to so much uncertainty that they would have trouble to get money to go ahead on the project with. What would you say to that proposition?

Secretary LANE. You are dealing with the word "empowered" as against the word "directed," are you?

The CHAIRMAN. Yes, against leaving it discretionary as it is in the bill.

Secretary LANE. Well, of course that would require probably stricter regulation. That is to say, we would issue a certain body of regulations with which the applicant would have to comply, and you would have to make very strict regulations if you did not have somewhere the power to reject an application.

You have got certainly to go upon the theory that we will not let anybody and everybody get hold of these things, because there are a certain number of gentlemen in every country who want to get hold of things and not develop anything. There are a certain number of others who do not have any possibility of doing anything with the project that they would get hold of.

Now, I do not object, in general terms, to having things made definite; and so far as I am personally concerned as Secretary of the Interior I would like to see things made just as positive as possible, but I do not think things should be tied up in such shape that it is mandatory upon me to issue a permit to somebody who I do not believe is acting in good faith.

The CHAIRMAN. It might turn out to be an instance where a local community, for instance, for irrigation purposes, might, from the standpoint of location and priority of responsibility, turn out to have certain equities to a claim or an application which they would make,

as distinguished from a power company, which would take the power and carry it away from that community; and might that not be a sufficient reason for leaving a little discretion in the Secretary of the Interior?

Secretary LANE. Well, I should feel myself, in a case of that kind, that it would be far better for the community itself, the municipality, to have that project, than it would be to turn it over to the private claimant.

The CHAIRMAN. Without injecting a new matter into the question, I have in mind the long-and-short-haul proposition that railroads sometimes use. They can destroy a little town, or a certain community, by giving more advantageous rates to other towns in adjoining localities. I was wondering if that might not enter into the question. I am not very familiar with that.

Passing from that to the next amendment suggested by Mr. Pierce, I will ask you to look at it, in typewritten form in the bill. After the words "to lease," in line 5, he suggested saying:

Under the provisions of this act, to any State or municipal subdivision thereof or to any public-service corporation or similar agent of the State, which shall comply with the terms of this act.

Now, the effect of that amendment as we have dissected it here in the committee seems to be that everybody except an individual could come in under such an application for a lease.

Secretary LANE. Yes; every corporation calling itself a public corporation could have a lease under that language.

The CHAIRMAN. What would you say as to an amendment of that sort which would exclude private persons or individuals?

Secretary LANE. I do not think it would make a particle of difference. I can organize a corporation in 15 minutes in any State and get all the rights given here to a corporation.

The CHAIRMAN. Well, that was Mr. Pierce's thought, that all corporations could come in under that provision, and then that there would be no question about their coming under the rate-fixing powers of the State, whatever they were.

Secretary LANE. I do not think this adds anything to the value of the bill.

The CHAIRMAN. Well, it was suggested here, and I think by the engineers who referred to it, that in the event that a person would be subject to the law or the rate-fixing body in the State, this would be unnecessary. Now, would or would not a private person come under the rate-fixing powers of the State?

Secretary LANE. I suppose most of the State laws provide that persons and corporations shall be under the rate-fixing laws.

The CHAIRMAN. I assume that they do.

Secretary LANE. Yes; I presume so. They even have in the interstate commerce law the word "persons"; and I assume that persons would be included in the State laws on this subject.

Mr. RAKER. In our State that word is used to apply to railroads and all others, just the same.

Mr. TAYLOR of Colorado. I have one thought in connection with that. There are a large number of ranchers and farmers—people who have a little water-power plant, you might say, to run their churns or do something on their farm—local farming matters,

where they do not sell the power; but in all probability two or three of them are joined together; it is not a money-making proposition but a home utility. Now, where would they come in under this amendment? Would every farmer have to organize himself into a corporation in order to have a little power plant on his own place?

Secretary LANE. Well, I have not heard of any case of that kind.

Mr. TAYLOR of Colorado. Well, some of them are contemplating doing that.

Secretary LANE. Not generally on public land, are they?

Mr. TAYLOR of Colorado. But they are liable to run across a piece of public land in their development.

Secretary LANE. Yes; that is true. Then they could get the right of way under the existing statute.

Mr. RAKER. That is the point exactly.

Mr. TAYLOR of Colorado. But a right of way under the existing statute has not been very satisfactory, has it?

Secretary LANE. Well, there is no trouble about that; we are granting them constantly.

Mr. TAYLOR of Colorado. Well, the only question is whether this would supersede that, and, if so, whether it would be broad enough to include the little farmer?

Secretary LANE. I have no objection to that being included.

Mr. TAYLOR of Colorado. I do not suppose it would; the only question is whether we ought to have an amendment to the bill which would exclude him.

Mr. SINNOTT. I would like to add that, under the laws of my State an individual is permitted to use water power up to 25 horsepower without any charge—to appropriate water power to that amount; and that is frequently done.

The CHAIRMAN. Passing from that question, Mr. Secretary, to line 6, page 1, of the bill, being the question of including Alaska——

Secretary LANE. Yes.

The CHAIRMAN. Now, of course, it was apparent to the committee, and I think has been generally conceded, that as far as Alaska coal was concerned, we ought to leave that to the Alaska coal bill already reported to the House; but is there any reason in your mind why Alaska should not be included in this water-power bill?

Secretary LANE. No.

The CHAIRMAN. There are no complications of any sort which would be involved in doing so?

Secretary LANE. I do not think so.

The CHAIRMAN. There are none so far as the committee knows, and I presume none so far as you know.

Secretary LANE. I presume that would be desired by the people up there.

The CHAIRMAN. There has been no suggestion in the hearing of any objections, but I thought we might mention that matter here.

Mr. BROWN. My idea is that the time allowed for operation, etc., might be extended in the case of Alaska, if the bill is made to include Alaska. Could we do that?

Secretary LANE. I suppose that could be done by the regulations when the lease was granted.

The CHAIRMAN. Yes; it could, unless there was some positive prohibition contained in the bill. Now, we did extend the time

in the Alaskan oil bill; we recently passed on the bill in the committee; I have not yet reported it. Of course, it applies to Alaska on everything except on coal. We did extend the time there; we amended the original draft, as you perhaps will recall, if you have seen the last draft of the bill, so that they will have more time to get the permit and begin the operation; that was due to the climatic conditions in Alaska; and I suppose that is what you have in mind, Mr. Brown?

Mr. BROWN. Entirely so.

The CHAIRMAN. Passing from that, in line 9, page 1 of the bill as it stands, you will observe that the provision is for a 50-year period—the maximum?

Secretary LANE. Yes.

The CHAIRMAN. And it authorizes the Secretary of the Interior to execute leases for water-power purposes for lesser terms than 50 years, in the event that it becomes necessary. It was the thought in this hearing, and of Mr. Pierce, who prepared this modified bill, that that ought to be a positive term of 50 years, which, in effect, would make that the minimum, rather than the maximum. What would be your thought about that?

Secretary LANE. I have no objection to that amendment. I think that putting in the words, "not longer than" allows us to let out a right for a shorter period where that might be desirable.

The CHAIRMAN. Your thought would be that the language, "not longer than 50 years" would probably means 50 years in the majority of cases, anyhow?

Secretary LANE. I think so.

The CHAIRMAN. Passing now over to page 2 of that modified draft of the bill, and down to section 2—I do not think there is anything above that that is very important—you will observe in section 2 that they have proposed to strike out the provision, "for the reasonable development and continuous operation of the water power, and may provide that the lessee shall at no time, without the consent of the Secretary of the Interior, contract for the delivery to any one consumer of electrical energy in excess of 50 per cent of the total output."

They propose to insert in lieu thereof the following:

> That the lessee shall commence construction of the project within two years from the date of the lease and shall thereafter, in good faith and with diligence, prosecute such construction and shall, within the further term of five years, complete and put in commercial operation such initial part of the ultimate development as shall be necessary to supply the reasonable needs of the then available market and shall from time to time thereafter construct such portion of the balance of such ultimate development as may be necessary to supply adequately the reasonable market demands until such ultimate development shall be completed, and no extensions of the periods herein provided shall be granted except by the Secretary of the Interior.

Secretary LANE. Now, that means that they have seven years to build the first unit, does it not; and they are the judges as to whether the rest of it should be developed at all or not?

Mr. KENT. Might I suggest, Mr. Chairman, that that seems to be rather inflexible? It seems to me that we are under the necessity of having a flexibility in that respect, and that leaves it in an inflexible condition.

The CHAIRMAN. Of course, the provision winds up by saying, "and no extensions of the periods herein provided shall be granted except

by the Secretary of the Interior." That opens it at one end, but does not at the other end.

Secretary LANE. What is the objection to the language in the bill as it stands?

The CHAIRMAN. Well, their objection was only, as I recall it, in regard to the provision contained in line 20 on page 2. They object to the provision requiring that no more than 50 per cent of the output shall be sold to any one person. Perhaps you will recall that that question was raised by some of the Senators from the irrigation States, who felt that if the power company was entitled to give all the power to one consumer they might neglect and leave behind the small irrigators, who could not pay the prices and could not compete with the party who used the power for manufacturing and similar purposes. I think that provision went in at their suggestion. I think Senator Smith of Arizona had something to say about that.

Secretary LANE. Well, you will remember, Mr. Chairman, that we had up a proposition of similar character in regard to the Pend d'Oreille power permit in eastern Washington, where they purposed taking a large power project and using it entirely for the development of a nitrogen plant. And there were in the neighborhood some mines, and some stamp mills, and there were growing towns in the neighborhood, and the question was whether that supply, which was the only available supply in the neighborhood, should be given over entirely for the use of the nitrogen plant, or whether some of that power could be used for the development of near-by industries; and that was the reason that the 50 per cent proposition was put in; it was put in that Pend d'Oreille permit, and then, as you say, some of the irrigation Senators thought that a millman could use this plant exclusively for his own industry, and that while it might come under a State public service corporation law, it would in effect be nothing more than a pipe line is now, a means of conveying oil from a well down to a refinery, exclusively used by the refinery itself.

Mr. RAKER. May I suggest an idea there, Mr. Chairman?

The CHAIRMAN. Certainly, Mr. Raker.

Mr. RAKER. Suppose there are 10,000 horsepower developed and there is only one concern that could use all of that 10,000 horsepower, while there might be two concerns within a reasonable distance that could use it economically, each using 2,500 horsepower. Under the law, would not the man or the corporation that controlled the hydroelectric plant be compelled to give to each in proportion to the amount that they could use?

Secretary LANE. Well, I would not undertake to say that that would be the holding of a public-service commission. Now, let me suggest a question just along the line of a pipe-line:

Here is a refinery that consumes 150,000 barrels of oil a day. It runs down from Oklahoma to Texas, the pipe-line does. Here is another refinery started up down in Texas that wants 15,000 barrels a day. The pipe-line is a common carrier. Are you going to make the pipe-line take 7,500 barrels for the first plant and 7,500 barrels for the second plant? Are you going to make the first refinery shut down one-half of the time?

The CHAIRMAN. If I might inject a thought, it might be that such an order would defeat the purpose of all three plants—that it would

not give any of them enough power to go on with, and thereby defeat all of them.

Secretary LANE. Yes; it might defeat the purpose of all of them.

Mr. RAKER. Well, is not that the same thing that is being done now relative to the use of water? If a company has 100,000 inches of water to deliver to its customers, and they are taking it all up, new ones come in and want water. Now, must not that company, under the California decisions—and I suppose it is practically the same elsewhere—supply all in proportion to their actual needs, and is it not true that they can not give an exclusive contract right to anyone?

Secretary LANE. I rather think so. I think that is the way it ought to be.

Mr. RAKER. That is my recollection.

Secretary LANE. There ought to be some regulation of that.

Mr. RAKER. In the San Diego case in particular and in the Los Angeles case the court held that they must give all in proportion to the amount of water they had when they applied for it; otherwise they could simply say, "Here, we will give it to one and cut the rest out."

I simply suggest that in connection with this matter of the 50 per cent provision, that if the public utilities commission carried out the full theory in the matter, everybody would be entitled to the proportion which the amount they could use bore to the amount which the company could supply; the company could not select anybody as a preference user.

Secretary LANE. Well, now, we have given the matter of rates into the hands of the public service commissions in these States; might we not say that when there was adequate provision made as to service in the hands of the State commission that this could control that matter?

The CHAIRMAN. Yes; this is not mandatory as it is; it does not make you hold that; it gives you the power to hold that; it says "Without the consent of the Secretary of the Interior." They could sell 100 per cent of the power to anybody if they wanted to; but you could stop it.

Secretary LANE. Yes.

The CHAIRMAN. It does not make it mandatory; but there might be cases where it would be necessary for you to apply the 50 per cent rule.

Secretary LANE. Yes.

Mr. KENT. Mr. Chairman, I had an idea that the first beneficial use of water controlled?

Secretary LANE. That is true. Of course, this water then comes into the hands of the power company. Now, it becomes a question of how the power should be distributed.

Mr. RAKER. I did not understand that. The first beneficial use from a public service corporation controls?

Mr. KENT. On, no; the general law governing the use of water.

Mr. RAKER. Unquestionably, the man or the individual who gets the first beneficial use of water controls; but the very moment he sells or disposes of that water to the public, he then comes under the law, and he must supply all who apply to him, in proportion to the amount of water he has and to what each one wants; he can not select any.

Mr. KENT. Can he cut off a part of one person's necessity in order to give to somebody else?

Mr. RAKER. He must supply them all alike.

Mr. KENT. Well, I do not know.

Mr. TAYLOR of Colorado. It seems to me that you are overlooking that first part of section 2, Mr. Chairman. As I understand it, the engineers said that under lines 16 and 17, "and continuous operation of the water power"—my impression was that they said it would be impossible to have a continuous operation of the water power throughout the year, because there are some places where there would only be a high-water right, and in other places it might break down, and there might be conditions under which they could not get the power——

Secretary LANE (interposing). Well, can we not define that?

Mr. TAYLOR of Colorado. I think the suggestion made by them was that there should be some definite period of construction.

Secretary LANE. I have no objection to that.

Mr. TAYLOR of Colorado. Where they would be able to float their bonds and get the money.

Secretary LANE. I have no objection to any provision of that kind.

Mr. TAYLOR of Colorado. And that provision might be so drastic that it might interfere with their floating the project.

The CHAIRMAN. A provision covering that will appear on the next page of the bill. Mr. Pierce does suggest that. On page 3, section 4, the original text of the bill says:

> That no lease issued under this act shall be assignable or transferable, and no sale or delivery of power to a distributing company shall be made, except upon the written consent of the Secretary of the Interior.

Undoubtedly the thought was in drafting that section to cut out monopoly and to prevent combination, etc.

Mr. Pierce, in his proposed amendment in line 13, proposes to strike out that provision beginning with the words, "And no sale or delivery" and ending with the words "Secretary of the Interior," in line 15, and to insert in lieu thereof:

> Except by mortgage issued for the bona fide purpose of financing the business to any transferee not having the capacity of lessee as defined hereunder.

Their justification for that proposed amendment was, in substance, that they would have to mortgage in order to get money to carry on these plants.

Mr. TAYLOR of Colorado. And 999 out of 1,000 of them are being built on borrowed capital.

Secretary LANE. Certainly.

The CHAIRMAN. And quite an impression was made on the committee that something of that sort was necessary.

Secretary LANE. Well, that would not be an assignment or transfer of the lease, would it?

The CHAIRMAN. In some cases they say that a deed of trust has been so held.

Mr. TAYLOR of Colorado. Well, the mortgagee might have to take the plant over. The question is whether this would prevent the men who furnished the money from taking the property over?

Mr. BROWN. It would usually be by deed of trust; and unless there is a provision covering that no money can be raised to build the plant at all.

Secretary LANE. Well, that is entirely reasonable.

Mr. RAKER. The bill that has already been reported out by the Committee on Interstate and Foreign Commerce in regard to navigable waters contains this provision:

That no property or project installed or operated under the benefits or provisions of this act shall be assigned or transferred, except upon the written consent of the Secretary of War, except by trust deed or mortgage issued for the purpose of financing the business of such owner, and any such successor or assign of such property or project, whether by voluntary transfer, judicial sale, or foreclosure sale, or otherwise, shall be subject to all of the conditions of the approval under which such original right was held, and also subject to all of the provisions and conditions of this act, to the same extent as though such successor or assign were the original owner thereunder.

Would not that give full protection?

Secretary LANE. I think it would, and I think that is much clearer.

Mr. RAKER. Than the one which is here in the bill with the proposed amendment?

Secretary LANE. Yes; than the one which is here.

The CHAIRMAN. Passing from that, Mr. Secretary, if you will turn to section 5——

Mr. TAYLOR of Colorado. Will you let me ask a question here, Mr. Chairman?

The CHAIRMAN. Yes.

Mr. TAYLOR of Colorado. I do not know whether it is a proper question or not; but has the Interior Department had occasion to examine this navigable-stream bill, and does that meet with approval generally, and does that carry out the same principles as this?

Secretary LANE. Well, personally I looked over that bill, but it was some time ago. I would not like to say that it was quite as complete as this bill is.

Mr. TAYLOR of Colorado. Ought it not to be?

Secretary LANE. Well, I think you had better ask the Secretary of War that. [Laughter.]

Mr. BROWN. Before you leave, do you care to refer to that other amendment on page 2 of the bill?

The CHAIRMAN. I think we can develop that a little later. I would like to scan through the remaining sections of this bill.

Mr. RAKER. Mr. Chairman, before you pass, you left out a suggested amendment on page 2, commencing with the proviso on line 4; I would like to have the Secretary's view on that.

The CHAIRMAN. We can develop that a little later. These are the salient points that I want to develop first, and you can take that up later.

Now, Mr. Secretary, section 5, beginning on page 3 and running over on the next page is, of course, the provision which seems to be an especially tender point with these gentlemen who have appeared before us; that is, the recapture or the retaking section; and of course every one, I think, without an exception, of the power people, and I think all of the engineers here have said, and have thought and been in earnest about it, that to take over the property that was acquired from a source other than the Government and, of course, formed an integral part of the entity known as the power site, would work a great hardship on them and would scare capital away if we did not give them the value of the property at the time we recaptured it or retook it; and the provision for taking it by the Gov-

ernment at its actual cost scares them very much. You dwelt on that somewhat in your statement.

Secretary LANE. Well, there is no real difference between this section as amended and the original section, except in the word "fair" instead of "actual" on line 23, page 3, and the word "value" which they have substituted for "cost," in line 24.

The CHAIRMAN. But that is the whole difference there. [Laughter.]

Secretary LANE. Yes; I see. But I am referring now to this proposition on page 4.

The CHAIRMAN. Yes.

Secretary LANE. They have got the words "the fair value" and "fair" and "fair" again—which signifies nothing. There is no real distinction between the "fair value" and the "reasonable valuation."

The CHAIRMAN. No; of course not.

Secretary LANE. But the meat of their objection lies on page 3.

The CHAIRMAN. On page 3?

Secretary LANE. Yes; and, of course, on that we take absolutely opposed positions.

The CHAIRMAN. Yes.

Secretary LANE. And I think I have explained myself fully as to why I think that the words "actual cost" are vital. I would not give my approval to a measure which struck out the words "actual cost" and substituted the words "fair value" in that connection.

The CHAIRMAN. Well, of course the thing that distinguishes a lease from a grant in perpetuity is the ability to get it back, is it not?

Secretary LANE. Yes, sir.

The CHAIRMAN. Now, this section deals with that very thing. If the conditions are made so onerous, and the value of the property grows to such an extent that Congress could not be induced to buy it back, although a lease on its face, it amounts to a grant in perpetuity in reality, does it not?

Secretary LANE. Exactly; yes, sir.

The CHAIRMAN. Now, the real gist of the whole thing is right in this ability to recapture the property, is it not?

Secretary LANE. That is one of the conditions under which they get our Government land for nothing.

Mr. FERGUSSON. And get such a long lease also?

Secretary LANE. Yes.

The CHAIRMAN. Now, Mr. Secretary, let us take the worst with the best, because we have got to work that out here later, and we want for the moment to hold you in on this proposition to this extent:

Their statement comes in like this, "Here we are getting a craggy dam site that is not worth anything." That is the substance of their contention.

Now, they go on and say that their system consists of valuable lands that they have to buy to use in conjunction with it. It consists in transmission lines which cost $20,000 a mile, and it consists in expensive and extravagant plants that they have to build, and extravagant associations and relations that they have to have with other companies that tie into them and that they tie into, and they say that it is preposterous that, because the Government owns the bunghole, it should insist on buying the barrel back at actual cost.

And that is the point about which the discussion has waged around this table.

Now, what course can we pursue which will not, while appearing to be a lease on its face, be in fact a grant in perpetuity—and still make the provisions of the lease so practicable and workable that something can be done under the bill? We do not want to pass a bill that will be a nullity and leave it to you to administer; we do not want to pass a bill that nobody can go ahead under. And they assert that nobody can get a cent of capital to construct the works under the bill as we have it, although all of them assert that they are for legislation, and all of them assert that they want legislation, and that they want to help us get a bill through—and I believe they do. But right here is a very vital difference.

Secretary LANE. Well, of course there is no way by which you can tell whether a prophecy will come true or not until you await the event. The wisest course to follow, it seems to me, is to enact this provision as it is, and if in the course of time it is discovered that capital is not attracted the law itself can be amended very easily.

But I think, as you say, that this feature of the law is vital and is a vital part of the measure. Let me tell you one thing that developed in the course of a conversation with some of these engineers. Engineers are lawyers in a sense.

The CHAIRMAN. On this subject, they are.

Secretary LANE. On this subject, they are special pleaders. They are making out a case for themselves as men who want jobs, properly, and for those who have to put up the money to compensate them to do this development. I have found them very fair in my discussions with them—very fair; but they come here with a feeling that it is their business to get just as much as they can out of us, and that we are a hard proposition anyhow, and if they get anything more than they really expect, that they have put something over on us. [Laughter.]

I had this proposition stated to me by one of the engineers as a basis of capitalization of an existing plant. They raised all their money on mortgages. All of the money that went to the plant went in on mortgages. They sold their bonds at 80 cents on the dollar. That left a margin of 20 cents. Then they issued capital stock. They had an amortization fund by which they returned at the end of the period the full face value of the bonds—80 per cent plus 20 per cent. They got the interest on the bonds and in addition they got a dividend upon the stock, which represented nothing whatever except the interests of the promoters.

Now, then, at the end of a 50-year period, we will say, they would have had a complete return of their investment—they would have had interest upon all the money that went in, interest upon the 20 per cent in addition to what went in, and a full dividend upon the stock, which represented water. Now, then, they want, at the end of that time, to sell the proposition back to the United States upon the basis of whatever the property is worth, whatever the water rights may have arisen to, whatever the rights of way may have become—to get back that in addition. Now, I think that is too much.

Mr. FERGUSSON. Might I interpolate a thought there?

Secretary LANE. Surely.

Mr. FERGUSSON. What you proposed and what they proposed represents only two alternatives from their standpoint. While I am not a socialist, I might make this suggestion: That the Government could rather construct the whole works and lease it out or rent it out than that the law should be made regulatory of something that might degenerate into a perpetuity in fact.

Secretary LANE. Mr. Fergusson, Congress would never pass a law of that kind. There is no possibility of it, and these gentlemen do not expect it.

The CHAIRMAN. Of course, Mr. Secretary, we are going to give you a clean sweep here as we go along. They put a statement in the record yesterday, some of the engineers, that showed that some 30 or 31 or 32 concerns had gone broke, and other things, and the names and addresses were gone into.

Mr. TAYLOR. They put in a list of all permits that were forfeited, and there was some question as to whether or not the Secretary might exercise his discretion in forfeiting them. They showed where they forfeited 32 in one day, I think, when there was no complaint of any of them. There was no complaint of their lack of diligence. It was just before they were going out of office that they forfeited them. That was at the time, I think, when Mr. Roosevelt went out of office.

Mr. FERGUSSON. Yes; on March 2.

The CHAIRMAN. Then we are confronted with the second proposition, and that is that the Interstate and Foreign Commerce Committee has just reported a bill which provides for regulation.

Mr. RAKER. I was just going to ask the Secretary a few questions on that when the other gentlemen get through.

Secretary LANE. Of course, there is this distinction to be constantly borne in mind there, that they do not have anything that they are trading on in that bill. Here we have the key to the whole situation.

Mr. RAKER. They claim here they have got all the key by virtue of the dam site in the river, and they just give the party the original cost back on that, and then on all outside, the reasonable fair value.

Mr. CANTOR. This, it is claimed, is largely due to the weakness of the present act as to the discretionary power lodged in the present Secretary.

Secretary LANE. I really do not know a thing about that, Mr. Cantor.

The CHAIRMAN. Jumping from that over to section 5, there is a proviso interlined on page 4, after line 12, which says:

Provided further, That if at the expiration of any lease period the properties shall not be taken over as herein provided, the lease covering said properties shall continue until the right of taking over the properties herein provided shall have been exercised.

To some of us that is quite an important thing. The Government is rather ponderous and cumbersome in its abilities to take action of that sort, but it is thought there should be, in a right so important, the right to keep the property going.

Secretary LANE. I do not see any serious objection to that at all.

The CHAIRMAN. The committee have been of the opinion that that was very desirable, and I think it is necessary, in fact. Do you agree to that?

Secretary LANE. Yes.

The CHAIRMAN. Now, down at the bottom of page 4 we come to an amendment which presents a more serious situation:

Provided, That in the issuance of such new lease, preference right of lease shall be given to the original lessee.

Now, let me ask you to consider that in conjunction with the proposed amendment on page 1, line 4, which first directs you to lease, and, second, gives you discretion to give preference to applications by States or municipalities. What would you say as to an amendment of that sort?

Secretary LANE. What is the provision on page 1?

The CHAIRMAN. The provision on page 1, as distinguished from giving you discretion in granting it, makes it mandatory, and directs you to do it. Then on page 4, after line 24, rather considering those two together for the moment, it in effect gives to the original lessee a preference right at the end of the period of the lease, whatever that may ultimately be.

Secretary LANE. I see no objection to giving a preference to the original lessee.

The CHAIRMAN. Is there any additional equity that would go with that, or any additional consideration which would enter in, which would make the property more difficult of retaking in the event they elected to do it?

Secretary LANE. I do not think so. All we have got to do in order to take over this property is to give these people notice that we are going to take it at a certain time. If we decide not to do that, but to proceed and make a new lease, we can give a preference to this lessee.

The CHAIRMAN. Of course, depending on the conditions, as to whether that seemed to be advisable at that time?

Secretary LANE. Certainly; and I would suppose that the Secretary would be entirely satisfied.

Mr. THOMSON. Suppose in the meantime a municipality has sprung up which is seeking this proposition?

Secretary LANE. Well, then, the question would be as to whether the preference should be given to this lessee or the municipality?

Mr. THOMSON. If the original lessee is given a preference right, the municipality—to use a slang expression—does not have a look-in at all.

Mr. TAYLOR. What does "preference right" mean, anyhow? It does not mean absolutely that he has got to have it under any conditions. It means other things being equal.

Mr. THOMSON. If they met such conditions as might be imposed at that time, they would have the absolute right as against everybody else—the municipality or anybody else.

The CHAIRMAN. Without getting into argument about that, that seems to mean a good deal more than that. A preference right is a very valuable right for the original taker. It serves as a buffer to keep other people from building, and it means a good deal.

Let me give you a rather humble example and one not entirely parallel, if I may. When our State was admitted into the Union they provided that the State might lease for school purposes two sections in each township, or lieu lands, with the proviso that the lessee should

have a preference right to release and to buy, and that came to us with that limitation. What happened was the original lessee began to make improvements so extravagant and to set out so many trees that seemed to have a schedule of prices; that each improvement should constitute a certain amount of money; that each tree should be $1 or 50 cents, etc. What happened was that the original lessee first claimed an inalienable right; that it was a crime almost for anybody else to bid against him. That was No. 1. No. 2 was that his improvements were so high in value that nobody else wanted his improvements. He dug holes in the ground that were valuable to him that would not be valuable to a successor, and the preference rights sold from hand to hand by lessees who would relinquish and let the other lessees take it up, as high as $1,000 a lease, paying the regular rental. So while I do not care to be in the attitude of opposing that at all, that is a valuable right.

Secretary LANE. Why not say this: That in case of the issuance of such a lease a preference right shall be given to the original lessee upon equal terms, so that this lessee gets no better terms than the other would get?

The CHAIRMAN. I rather assume that your regulation would get that, Mr. Secretary.

Secretary LANE. Probably.

The CHAIRMAN. I think it would.

Secretary LANE. But to leave that, the point raised over here was the preference right of the original lessee as against the State or municipality.

Mr. THOMSON. Provided he shall not have a preference right—adding to that language there—as against the State or the municipality. Provided that he had a preference right as against individuals, but not as against the State or any municipality.

Secretary LANE. I think that is a good suggestion.

The CHAIRMAN. Nobody has any objection to it; but if he wants to think for a moment that it is not a valuable right, I say it is.

Secretary LANE. Where there are two individuals, the man who is out there already would then have a preference right over an outsider, and I think he ought to have.

Mr. RAKER. And as a matter of fact this preference right ought not to be transferable, ought it?

Secretary LANE. No; of course it could not be.

Mr. SINNOTT. Mr. Secretary, I would like to suggest an idea that has occurred to me in connection with section 5. Can not the privilege which we are endeavoring to preserve in section 5 of taking over the associated plants be circumvented in this way, that instead of physical combination being made by the parent plant and the distribution system referred to in section 3, the companies will organize a distributing company, or there may be a distributing company in existence, and that distributing company, instead of making physical combination, as contemplated in section 3, will apply for a lease under section 4 of power for distribution, and thereby we will not reserve the right to take over the distributing system?

Secretary LANE. Yes. There would be a severance, as I understand you, of the distributing systems and the generating plant?

Mr. SINNOTT. Yes.

Mr. CANTOR. Would that be governed by regulation of the department?

Mr. SINNOTT. Under this act?

Secretary LANE. No; but I just wonder if there is any real danger in that. Supposing that were so, and you generated power upon the Klamath project and distributed it in the neighborhood by a separate distributing company.

Mr. SINNOTT. Release the power to the distributing company?

Secretary LANE. Release the power to the distributing company.

Mr. SINNOTT. Under section 4?

Secretary LANE. Yes. Of course, at the end of the period the distributing plant is absolutely valueless, is it not?

Mr. KENT. You might have to condemn it; go into court and condemn it, and pay values that you do not want to pay.

Mr. SINNOTT. It seems to me that distributing plant has some club over you, because you have no right to take it over.

Mr. CANTOR. If you destroy the lease there would not be any distributing plant.

Secretary LANE. The language in section 4 was intended to prohibit just that situation.

Mr. RAKER. I see.

Secretary LANE. You have got in that language:

> That no lease issued under this act shall be assignable or transferable, and no sale or delivery of power to a distributing company shall be made except upon written consent of the Secretary of the Interior.

Mr. SINNOTT. You think under that you can exact that condition of the lessee under section 4?

Secretary LANE. I think you could make it conditional.

Mr. RAKER. Would it not be more beneficial to the Government if there was a distributing company that had all the distributing plants? They get nothing under the lease. The Government would not have to buy anything at all at the end of the 50 years of the distributing corporation, would it? Their plant would become useless, and we would not have to rebuy it at all or retake it.

Secretary LANE. The proposition Mr. Sinnott makes is that we would have to have some substitute distributing plant if we are going to take over the power plant. I think if you leave section 4 as it is that probably takes care of that situation.

The CHAIRMAN. Now, on page 5, Mr. Secretary, I draw your attention for a moment to the substance of section 7 as originally drafted.

Mr. SINNOTT. Just a moment, Mr. Chairman. I just want to be clear on that other point.

Then it is your idea, Mr. Secretary, that we should have a right to take over that distributing company mentioned in section 4?

Secretary LANE. Yes; I think so. We might make such a condition.

The CHAIRMAN. Section 7, page 5, as originally drafted was in effect that when the public interests required the lessee could have permission to let a contract to be executed extending beyond the life of the lease with your permission.

Mr. Pierce strikes out lines 3, 4, and 5, down to and including the word "of," and fixes it so that the public-service commission can give that authority. What would you say about that change? Might not that lead to considerable confusion? Suppose at the end of 40 years

the company chose to make a lease at the rate of 3 mills a kilowatt hour to its own concern, we will say, or some affiliated concern. It might be a very embarrassing thing for that plant. What would be the value of that plant at the end of the time if it were bound up by such a lease? The Secretary of the Interior would have the question in mind as to the time of the expiration of the lease, but the State commission might not have that in mind.

Secretary LANE. And the State commission would not know what the intentions of the Secretary of the Interior or the department might be with reference to future handling.

The CHAIRMAN. Precisely. And to that extent that would apparently be a conflict of authority that would not be advisable, would it not?

Secretary LANE. I do not think you are going to have very much difficulty on the question of conflict between the Secretary of the Interior and the States. As time goes on we are getting very much better to understand each other, and you must remember that the States are very new in the development of any kind of machinery for handling water power or railroads or anything of that kind, and just as soon as they do develop that machinery it is inevitable that Congress itself will want the power lodged in the States, and the gentlemen now who are making objection to this bill will come before Congress and oppose a transfer from Congress to the States, precisely as they have shifted on the railroad question. They are now begging that all power should be taken from the States regarding railroads and lodged in the hands of the central Government, and they used to be begging that the Government should do nothing itself, but should leave it all to the States.

The CHAIRMAN. That is probably because the local commissions have begun to do their duty.

Secretary LANE. It may be.

Mr. CHURCH. Do you not think the conditions in reference to the termination of the lease, about which you were just speaking, can be handled by amendment at the time when they come up and present themselves much more wisely than they can be handled at the present time?

Secretary LANE. You mean 30 or 40 years from now, if there was a necessity for something of that kind, that Congress would be apt to take care of it?

Mr. CHURCH. That is exactly what I mean, and I think that they can be seen at that time from a much better view point than they can be seen at the present time.

The CHAIRMAN. You think there will be a Congress here then?

Mr. CHURCH. I have no idea.

Mr. RAKER. The same one?

Mr. CHURCH. I hope so. [Laughter.]

The CHAIRMAN. Passing over to section 8, we launch headlong, in section 8, into the question of fixing the rental. In formulating this bill different ideas were advanced, with the final thought that no one knew what ought to be charged, and no one knew what would be a fair rental, and we took refuge in the fact that the Secretary of the Interior would have to attempt to fix it in each case as he thought the circumstances warranted. I think every witness, and especially the

engineers and power people here, have urged that something definite be fixed per horsepower. Twenty-five cents has been suggested, I think, per horsepower as being a proper rate. I do not know whether that has been pressed very much, but they have urged that we ought to put in a specific amount, and I wondered what you thing of that proposition.

Secretary LANE. I am told that there are some projects that would not stand 25 cents, that it would probably lead to development if there was not any charge at all upon some for 10 or 15 years, and after that a graduated charge. I tried to devise a table, making the rate of compensation gradual and reduced in proportion to the reduction in the rate, and did devise such a table in connection with the Pend d'Oreille permit. It might be impracticable to put it into a bill of this kind, for the reason that every situation must be judged of by itself. You gentlemen can say that 25 cents could be fixed as a uniform price, and perhaps that will be an average price, all things considered—I do not know—and fair, taking the country all over; but it seems to me that it would be a wiser policy to allow us to charge nothing in some places, where there was not any community in the neighborhood that would demand the power in any very large quantity immediately.

Mr. CHURCH. Mr. Secretary, might I interrupt you right there?

Secretary LANE. Yes, sir.

Mr. CHURCH. It was suggested that a maximum be fixed; that it should not exceed a certain amount; and that, of course, it would run down to nothing if it is justified.

Secretary LANE. Well, should that maximum be fixed for the period of 50 years, Mr. Church? Supposing you were generous minded now and fixed the maximum at 25 cents; at the end of 20 years should that same figure obtain?

Mr. CHURCH. Well, I was only giving you what had been put forth here. I can not answer that.

Secretary LANE. I rather think that if you will leave some option and some leeway in regard to these things that they will work out themselves, because if there is a plant that is worth while we can put this thing up on a basis where there will be competition come in.

The CHAIRMAN. May I add right there Mr. Church does correctly quote the witnesses, and I think I correctly quote them when I say that some of them have advocated that we incorporate in the bill a maximum beyond which you can not go. I do not wish to say in regard to that, because I do not want to become argumentative, but I do want to say to the committee, and I do want to say to you, Mr. Secretary, that in the last seven years' experience I have had in the House, with the Alaskan leasing bill and what not, I am led to feel sure that the effect any sum you put in there as a maximum sum would be to defeat the bill. I think there is no question about that. That is what would happen. When we get into the proposition of fixing a certain amount, one man, who perhaps may know about a certain plant, will think you ought to charge $2.50 per horsepower; another Member of Congress will live in another community, where they are probably anxious to get some one to come in and develop the horsepower, and you will just get into a whipsawing proposition, and you will get nowhere on this bill. I think there is no refuge except to leave it as it is. The engineers have appeared, and they

have appeared both as experts as to the building of the dams and everything from A to Z, and some of them have appeared for the purpose of explaining to us why it could not be financed, and they have all said they must have a positive fixed figure.

Secretary LANE. Can that not be taken care of in the lease itself, so that they will have an exact basis upon which to go forward?

The CHAIRMAN. I have tried to see about that. At least, I have said to them—or it has oozed out in the record here at least—that if they knew in advance what it was going to be they could either take it or let it alone. If they let it alone, of course the community development might suffer, but if they take it they would know what they are going to get, and it would be without the uncertainty of you or some one else fixing the rates; but they come back and say that the dam site is but an integral part, and that they have to go out and buy water rights and buy their lands and make their surveys, which are very extravagant and expensive as well, and that they have to do all of this other development work, and that then they can not go on and finance it unless they know precisely what the department is going to do, and unless they can know what the terms will be they fear that will complicate or bungle up their effort to develop their waterpower. I do not know anything about borrowing money. All we are trying to do, of course, is to find out about this very situation. They say they will have to buy water rights; they will have to pay for extensive surveys; that they will have to buy land; that they will have to make extensive connections with other parties; that they have to tie in and become an integral part of other systems, and they will be up in the air, so to speak, on what they wish to do on their dam site itself and what they will finally buy, and that makes it impracticable and impossible for them to get money to do these additional things which they will have to do. That is their side of it.

Secretary LANE. When do they come to the Secretary for this lease? Do they go out and gather up all of these things and then come in and ascertain as to what the charge will be?

The CHAIRMAN. They put it up to us this way, Mr. Secretary. This was not before our conference down there when we wrote this bill. They say that they have to go out and buy water rights, and they have to go out and buy their land and other things other than the dam site itself.

Mr. TAYLOR. They say they would have to establish steam plants to supplement where the water runs down.

The CHAIRMAN. Yes; they say that.

Mr. CHURCH. And pay out large sums for engineering.

The CHAIRMAN. Mr. Finney, what was that amount you said you expended for surveys and engineering on the Little Tennessee?

Mr. JOHN H. FINNEY. On the Little Tennessee we spent nearly $1,000,000 in engineering alone, in the last four years.

The CHAIRMAN. I wanted to get it correctly.

Those are some of the contentions that they bring to us here as to their side of it, and it is eminently proper that you and this committee and these gentlemen over here should get together on something, otherwise we will be in the attitude of passing a bill which is intended to do good and intended to accomplish a lot for the West; still if we can not get a cent to do it it will not do any good.

Mr. JOHNSON. If they are certain that these things must be done in advance of the lease it will not harm them, but if done afterwards they are liable to be held up on the proposition.

Mr. SINNOTT. Since you have mentioned the Pend Oreille matter, that was the very reason assigned by one of the witnesses why these matters should be made definite in advance. They told us that your regulations, etc., were impracticable.

Secretary LANE. I have found this, that every engineer who was not interested in that Pend Oreille proposition thought that that was a very bad permit. The only gentlemen who have not objected to it are the gentlemen who got it. [Laughter.]

The CHAIRMAN. It is satisfactory to them?

Mr. LA FOLLETTE. Mr. Secretary, allow me to say that the people who got the permit have never been able to finance it.

Secretary LANE. No; and nobody else has been able to finance anything since they got that permit.

Mr. LA FOLLETTE. I can not say as to that.

Secretary LANE. I had a letter the other day from Mr. Gerry, who had been sent a copy of this bill. He thought it a perfectly practicable measure. He probably knows as much about water power as any man in the United States, and he has never raised the objection to me, although I saw him out in Montana several months after the permit was granted, and have heard from him once or twice since. He never raised the objection that he could not finance it because of its conditions.

The CHAIRMAN. Let me pass from that concrete case just for a moment. Did you catch Mr. Johnson's suggestion here, Mr. Secretarty, in addition to what I have stated about the general contentions of the power people?

Secretary LANE. Yes, sir.

The CHAIRMAN. And in addition, Mr. Johnson makes the point that they must gather up and get these lands and water rights and other adjuncts to the dam site before they can come to you. They say if they come to you first and get an authorization to take out a lease or get a lease these other fellows say, "You have got to have us now," and they charge exorbitant rates. I do not know how sound that contention is, but it has been made.

Mr. TAYLOR. They say, on the other hand, if you have not got anything, we are not supposed to treat with anyone that comes in, or anyone that drifts into the office.

Secretary LANE. Could not we deal with that along the line of regulations? Could not we deal with that along some similar line to a permit?

The CHAIRMAN. I was going to suggest that. Of course, that would not obviate the trouble Mr. Johnson suggested. In other words, a permit would go out to the public through the press. News would go out that they had intended to take out a development there, and, of course, that would put all grafters on notice who wanted to hold them up on the price around there, to put excessive values on water rights and land. But I do not see how you could come at that in any other way than to put in this bill, just as we did in the Alaskan leasing bill, and in the general leasing bill, that for the time you could issue a temporary permit to a power organiza-

tion and let them go out and see if they can get hold of the other adjuncts that will make a going concern of it, and at the same time finance it.

Secretary LANE. Of course, if they would organize as a public-utility corporation they would have the right of eminent domain, so that they could condemn any property that was a mere black-mailing proposition.

The CHAIRMAN. Well, that is true.

Mr. RAKER. They say, suppose that they do condemn that right of way, and condemn all the other rights, and they could not get the right from the Government.

Secretary LANE. They could have a permit which would entitle them to a lease. A permit issues in the first instance, you see, and then they would know on what terms they could figure.

The CHAIRMAN. Just as we did in the oil leases. You issue to them a permit. They do not know whether there is anything there or not. They go out and find out. If they discover anything they come in and get their patent to one-fourth and let you dispose of the other to some one else as a leasehold.

Here is a dam site that belongs to the Government, and these power people think they can make a going concern of it. They now come to the Secretary of the Interior and say, "Mr. Secretary, we think we may be able to make a going concern of this. Will you give us a permit to try for one year or six months or 90 days, or whatever will be a proper time?" That gives nobody the opportunity to slip in under them and get a dam site away from them. They then know precisely what the terms of the lease will be. They then know exactly what you will say if they come back and lay the matter on the table and assert this fact, to wit, that they have got the water right and the land and have financed the proposition and are ready to go ahead. They know that you will give them this lease on the terms of the permit. I rather believe that Mr. Finney and yourself, Mr. Secretary, had better give a litle thought to that one proposition.

Secretary LANE. I suppose you could do that just as well in regulation. Do you not think so?

The CHAIRMAN. Perhaps you could, but they are deathly afraid of regulation. They are deathly afraid of everything they can not see in print.

Secretary LANE. Well, we will put the regulations in print. [Laughter.]

Mr. TAYLOR. They fear they can not get the money for it.

Secretary LANE. They would know all of the terms and conditions in advance, and they could go out and see whether they could float it.

The CHAIRMAN. Why does that not obviate a great deal of the objection that was made, Mr. Finney, by you and Mr. Pierce and others, if you had a permit for a certain time, and at the time of receiving your permit the Secretary, through regulations and through agreement which you could draw up, an unsigned lease or a nonexecuted lease or contract, so that you would know exactly what you could do? Could you not then go out and get your money and finance it?

Mr. JOHN H. FINNEY. I think it is unanimously agreed upon by all of us here that we would trust the present Secretary absolutely, but——

The CHAIRMAN. I hope I have said nothing to the contrary of that, Mr. Finney.

Secretary LANE. I know what that next sentence is going to be—that you do not know what sort of man the next Secretary will be.

The CHAIRMAN. You have guessed it exactly.

Mr. JOHN H. FINNEY. The first permit, Mr. Secretary, is only a small part, and probably a very small part of the system that is finally going into that proposition at the end of 50 years. For instance, we need 10 different permits to throw 10 different projects into the same scheme, because it is a going business. It is not a separate entity. Each plant that is put into a hydroelectric system to-day all becomes a part of a great service system, from which electrical energy is had, from half a dozen water plants, plus half a dozen steam plants. If you have to come to succeeding Secretaries every few years to get the necessary extensions of that system which the public-service commissions of the various States are going to insist upon in order to meet the demand for power, I think it is a very serious business, if we do not know what we are going to meet in the way of charges for a fixed period. It is going to be just as difficult to finance the second project as it is to finance the first project.

Secretary LANE. Does that amount to anything more than this: If I buy a piece of land down here on Massachusetts Avenue, a 25-foot front, and I pay a certain amount for it per foot, and my household grows or my financial condition is such that I want to get the adjoining property, that I have got to pay what the other fellow wants—I have got to come through on some terms with him?

Mr. JOHN H. FINNEY. Yes; but you do not have to buy that particular piece of property. You are not fixed on Massachusetts Avenue; you can move, if the terms do not suit you, to Connecticut Avenue. But the hydroelectric station is a fixture; it has got to stay there for the balance of time.

Secretary LANE. But I am fixed as to the 25 feet, and so are you fixed as to a certain plant.

Mr. JOHN H. FINNEY. But there is no public-service commission that is compelling you to buy next door to you. You take it or leave it, or move.

Secretary LANE. Well, do you suppose that on presentation to this department or any successor to the present Secretary, that consideration would be given to your desire to have an additional plant?

Mr. JOHN H. FINNEY. I should hope so, Mr. Secretary.

Secretary LANE. Just as a matter of fact, you have not seen any policy adopted by any secretary that would be contrary to that, have you?

Mr. JOHN H. FINNEY. I have seen varied regulations or policies proposed, Mr. Secretary.

Secretary LANE. Because everybody was groping, Mr. Finney. That is a fact.

Mr. JOHN H. FINNEY. Are they not still doing it?

Secretary LANE. To a certain extent we are, and we are trying to get the safest thing now, for the time being, to do just what is wise at

present, and not give away any more than we have to give away in order to attain the thing that we want, to anybody who will apply. Why, I had an engineer in my office the other day who solemnly believed that the power of this country was not going to be generated by water but by steam, and that your anxiety to get plants of this kind was simply a delusion on your part as to their value.

Mr. JOHN H. FINNEY. That has been true with respect to a great many of them.

Secretary LANE. So that you engineers and everybody else are groping.

Mr. PIERCE. Mr. Chairman, may I say just one word on this question?

The CHAIRMAN. Yes.

Mr. PIERCE. In regard to the advisability of putting in a fixed charge in the bill. European nations have taken up that question. They have given a great deal of consideration to it. I spent three or four months of last year abroad, and so I speak advisedly. In several countries where large water powers exist, like Norway and Sweden, they have adopted a water-power tax of 25 cents per horsepower.

Secretary LANE. Is that uniform, Mr. Pierce?

Mr. PIERCE. That is uniform. To be exact, it is one kronen in Norway, amounting to 26¼ cents in American money; and the tax is virtually 25 cents per horsepower in all countries of northern Europe.

I think that the most of our at present undeveloped water power will, in the future, be used in the manufacture of electrochemicals, because most of the water power developed in Europe during the past five years is used for that purpose. How are we going to establish in the United States electrochemical industry if we charge more than they charge abroad? The water powers of Norway, for instance, may be developed as cheap or more cheaply than those in the United States. Labor is cheaper, ocean freight is cheaper, there is no duty on electrochemicals into the United States, and therefore, under those circumstances, if we charge more than 25 cents we will never have the electrochemical industry established here.

I quite recognize that under the terms of the bill as originally drawn it leaves it to the discretion of the Secretary of the Interior to fix the rate, but it does seem to me that it is not best to give him that authority, and that we might well follow the established custom in Europe, and name a fixed rate of 25 cents. If there is a water power in this country that can not afford to pay that rate, I do not believe it is practical to develop it at all. While 25 cents per horsepower per year is a reasonable rate, I do not believe that the Federal Government should name as rental a price that would more than cover administrative expenses, and I take it that you all agree with me in that, and I suggest that a low rate would make it very, very much easier for development.

The CHAIRMAN. There is a difference of opinion about that.

Mr. PIERCE. I will say, then, that that is my opinion; I know that it would be much easier to finance these projects if we knew through a term of years ahead just what the tax would be. Of course it would be named in the lease, but I think it would relieve the Secretary of the Interior of an embarrassing duty. I do not believe he

wants this authority. I do not believe it is best to give it to him, and I think we might well follow the foreign Governments in that matter.

The CHAIRMAN. Have you got these bills, these foreign bills?

Mr. PIERCE. No; I have not. They are in the foreign language, and I did not bring them over; but I know that what I state is a fact.

The CHAIRMAN. I wonder if you could procure those in some way?

Mr. PIERCE. I think Mr. Slattery has them.

The CHAIRMAN. Do you have them, Mr. Slattery?

Mr. HARRY A. SLATTERY (Conservation Association). Yes, sir.

The CHAIRMAN. In every country?

Mr. SLATTERY. No, sir; but for some of them.

The CHAIRMAN. How many countries?

Mr. SLATTERY. We have France, Italy, Norway and Sweden, and Denmark.

The CHAIRMAN. Let me make a request of you now, if you do not mind, to have copies of them made and let us have them; and send the Secretary one and send us one, because we undoubtedly will have to do some work on that.

The CHAIRMAN. Mr. Pierce, let me make the request of you now: If you do not mind, I wish you would have copies of that made and send the Secretary one and send us one.

Mr. PIERCE. Just in conclusion, Mr. Chairman, I did not investigate the laws of Italy; but I think it would be very well to have these, and I am very glad Mr. Slattery has them. I know that in Norway one concern there has permits for the use of 450,000 horsepower, on which they have already developed 300,000 on that basis.

All I am looking for, personally, is results. I want to see a bill passed, but still a bill that will be fair to everybody.

The CHAIRMAN. Gentlemen of the committee, Mr. Graham, of the committee, suggests that we have the Pend d'Oreille water-power matter inserted here and the regulations provided for it. It is the Sixty-third Congress, first session, Senate Document 147. It is very short, and unless there is objection it will go into the record.

(The document above referred to will be found as Exhibit M in the appendix.)

The CHAIRMAN (continuing). Now, passing from that, Mr. Secretary, turn to section 9, page 6. It has been suggested that section 9 go out, due to the amendment which they suggested before. It takes up that interval of time between the expiration of the term and the retaking or the releasing.

Secretary LANE. Section 9 is the section which refers to the giving of these permits only in those States where there is a commission power to regulate it.

The CHAIRMAN. Yes. How important do you think that is, Mr. Secretary?

Secetary LANE. Of course that power must be somewhere. There is only one alternative to that proposition, it seems to me, and that is to leave with the Secretary of the Interior the regulation where the States do not undertake to do it.

The CHAIRMAN. They suggested an amendment which would cover that.

Now, that carries over to the end of the bill, Mr. Secretary, section 14. There is a good deal of talk about the advisability of putting in that repeal clause there the thought being it might repeal more than was intended to repeal.

Secretary LANE. Perhaps you could have those acts put before you and see whether you wanted to repeal all of them, or not. I can have Mr. Finney do that.

The CHAIRMAN. Yes; perhaps that would be advisable.

Mr. RAKER. The Secretary made it plain, but I did not quite get his idea in connection with the turning over of the property after the 50-year period. Was it your view, Mr. Secretary, after the 50-year period that when the Government takes over the property, all the water rights, rights of way, and additional property that has been purchased by these individuals or corporations should be taken over at the cost that was originally paid for the plant?

Secretary LANE. Precisely.

Mr. RAKER. And for the property?

Secretary LANE. Yes.

Mr. RAKER. Now, are not we under another condition there that might be just as strongly against the Government as it would be to pay the fair value? For instance, suppose the parties went out and paid an enormous sum for this property and for a right of way that was actually worth on the market, or under condemnation proceedings, under the proper rules—a right of way might be worth $10,000 and they might have agreed to pay $100,000 for it and make arrangements to pay it according to the 50 years; and the same way with the land. Are we not in danger there of leaving a loophole that might work more of an injustice than could be done if we paid the actual value; or, not to pay the actual value, but to make some provision so that they could not put an exhorbitant price on the property?

Secretary LANE. I suppose those words would have to be construed as modified by the general rule that fraud would vitiate the proposition. The illustration you gave there, for instance, is this: Suppose I might be interested in such a project and you have a piece of property. Your piece of property is worth $10,000 and I pay you $100,000 for it. Of course, the only reason I do that is so you would give me back half of the $90,000. That would be a case of fraud, and of course when we came to buy the plant we would simply say: "Why, of course, what was paid over to you does not go. We will pay the $10,000, which would be the actual value of that property, because there was fraud in the transaction."

Mr. RAKER. Suppose there was not any fraud—suppose the parties say the plant is worth $100,000, and the plant has been established?

Secretary LANE. I have no objection to a modification which will pay actual cost but not to exceed a fair value.

Mr. KENT. Not more than actual cost?

Secretary LANE. Actual cost, but not more than a fair value.

Mr. KENT. Not more than actual cost, I think, would be a better amendment to prevent that horrible injustice.

Mr. TAYLOR. Suppose there was fraud. How would you prove it after 50 years?

The CHAIRMAN. Is it not inconceivable that a man would pay more for it than he could get for it?

Mr. GRAHAM. You say where the property is worth $10,000, and he agrees that you pay $100,000; is it not almost inconceivable that a man would do such a thing?

Mr. RAKER. I do not see that there is anything inconceivable about it.

Secretary LANE. There is not anything inconceivable in dealing with this proposition.

Mr. RAKER. You say there would not be any distinction as to the method of recapture between an unnavigable stream and a navigable stream——

Secretary LANE. I do not want to discuss that.

Mr. RAKER. I am just taking the rates they fixed here, Mr. Secretary. The Committee on Interstate and Foreign Commerce have fixed a rate at which the property will revert, and I have just wondered whether you could give us any information as to why there should be a distinction.

Secretary LANE. As to the rates of compensation?

Mr. RAKER. Yes; as to the rates of compensation in retaking the property.

Secretary LANE. Well, I have no objection to your adopting the principle laid down in my bill and incorporating it in this.

Mr. RAKER. I see. [Laughter.]

Mr. LA FOLLETTE. Judge, what is the number of that bill?

Mr. RAKER. That is No. 16053. You think that would be the better course to pursue?

Secretary LANE. You will have to pass on that yourself.

Mr. RAKER. No; I am figuring on getting the views of the Secretary on that, you know.

Secretary LANE. I am too modest to say.

Mr. RAKER. I do not know about that, Mr. Secretary. I think you are always willing to express your opinions, and that is what we like.

Secretary LANE. We come from a modest State.

Mr. RAKER. Yes. [Laughter.] Mr. Secretary, the chairman did not call your attention to the provision of the suggested amendment on page 2. You have the amendment before you there. What have you to say as to the suggested amendment?

Secretary LANE. Which is that?

Mr. RAKER. Page 2, commencing with line 4, it makes a change.

Secretary LANE. "Provided, that no such leases shall be given within or through any of said national forests, military, or other reservations if the chief officer of the department under whose supervision such forests, parks, or reservation falls shall show by a finding of fact that the lease will injure, destroy," etc. I think there is no objection to that; it is put in the negative form; that is all.

Mr. JOHNSON. Mr. Secretary, is it your thought that any of those now operating under the permit system shall be permitted to come in under this leasing system?

Secretary LANE. I think probably many of them would want to, Mr. Johnson, and I think they ought to be entitled to do so.

Mr. JOHNSON. This bill does not seem to provide for it, as I understand it?

Secretary LANE. No; but of course they could surrnder, I suppose, their present permit and take a lease under this law. No objection to that suggests itself to my mind.

Mr. JOHNSON. You would have no objection to that?

Secretary LANE. No.

The CHAIRMAN. That would be in harmony with what we are trying to do in the oil case.

Secretary LANE. Yes.

Mr. KENT. That would bring up a serious question of departmental regulation, would it not? These people, a good many of them, have permits under the Department of Agriculture now; and if they gave those up and went in under another department, would not that snarl matters up?

Secretary LANE. There are no permits given by us, then; they are permits given by the Department of Agriculture?

Mr. KENT. Yes. Would not that snarl matters up?

Secretary LANE. I do not think so.

Mr. JOHNSON. I had reference to permits from whatever source they might have been issued, that they should be permitted to surrender under them and take a permanent lease of this character.

Secretary LANE. Yes.

Mr. LA FOLLETTE. Your method would simply be a permission; there would be no compulsion about it?

Secretary LANE. No; I would not make it compulsory.

Mr. SINNOTT. Mr. Secretary, is there anything in this bill that would, by implication, preclude a permit for the development of power other than hydroelectric power?

Secretary LANE. I do not think so.

Mr. SINNOTT. I asked that as a matter of precaution.

Secretary LANE. I do not think there is.

Mr. JOHNSON. I do not think so myself. Now, regarding this matter of the taking over of this distributing system: Would it be your idea that in case there was a system developed in itself, using 50,000 horsepower, and the developing system was leased from the permittee under this bill, that then the Government would have a right to take over this plant at the end of the 50-year period?

Secretary LANE. Oh, no; I did not understand that was the proposition you had up. I think there might be the development of the plant itself aside from the distributing system, and that they could sell their power to the distributing system, under such conditions, in accordance with section 4.

Mr. SINNOTT. You would not contend in all cases you have a right to take over the distributing system?

Secretary LANE. No; of course not.

Mr. TAYLOR. Would this bill under its present terms permit that?

Secretary LANE. I do not think so.

Mr. BROWN. Mr. Secretary, you spoke of one hydroelectric company which set aside an amortization fund to take care of its bond issues, and I wanted to ask you if that was in line with the modern method of financing corporations?

Secretary LANE. It is.

Mr. BROWN. The testimony given us was to the contrary. It was to the effect that these companies consider themselves public necessities as well as public utilities, and that they are going to run on forever; that instead of setting aside an amortization fund, we will say, for a period of 50 years to take care of the bond issue, and finding itself on velvet at the end of that time, the modern method of ac-

counting is to put the profits into the plant every year in replacements and the other things, as the railroads do, I take it, and it is undesirable to force them to put aside an amortization fund, so that at the end of the 50-year lease, such as they would get under this bill, they would be entirely on velvet, and if the plant were recaptured by the Government that would be an additional amount of money received by them.

Now, which is the correct viewpoint of these people? Do they amortize or do they not?

Secretary LANE. I gave that as a specific instance, because that is the way the instance was recited to me by the financier of the company. I can not tell you if it is the procedure in all cases. I do not know as to that. But here is the proposition in that connection: Suppose they get 12 per cent out of the property and they do not put any of that 12 per cent into an amortization fund, but they divide among themselves 6 per cent and then take the remaining 6 per cent and either put it into the general assets of the company or use it for the extension of their plant. When we come to purchase that extension we would pay them that back.

Mr. BROWN. Oh, I can see that, sir.

Secretary LANE. So that they would get back the amount of money they put in; don't you see?

Mr. BROWN. Yes.

Secretary LANE. They would get back the amount of money they put into the plant, which, instead of being an amortization proposition, would be perhaps the purchase of a definite unit.

Mr. BROWN. I want to ask you about this, because it did not seem to me the method of amortization was the general method or the modern method at the present time. And I think it is so for this reason: I made up here some very rough figures to see how it would work back, and if my figures are anywhere nearly correct the total charge per horsepower developed, including distributing lines and other costs, might be in the neighborhood of $400 per horsepower developed—perhaps $200 in the plant itself and $200 in the rights of way and distribution, and so on. The sinking fund, on a 5 per cent basis for amortization to take care of the $400 per horsepower required to develop the property, would amount to a charge to the consumer in the neighborhood of 12 to 14 per cent as an additional price on each horsepower sold to cover that amortization fund. That sounds like an absurd proposition, but if there is $400 put in for every horsepower developed, assuming that the horsepower can be developed for $20 and sold for that at a reasonable profit, it would mean an additional charge to the consumer of about 12 to 14 per cent about the $20.

Could you conceive of such a proposition as that being correct?

Secretary LANE. Yes; I can. You take some of the best railroad properties in the United States. They run on this proposition: They want to make a dividend of 6 per cent; they earn 12 per cent, and that is not an extraordinary earning, because there are railroads in the United States, large railroads, earning 18 per cent.

Mr. CANTOR. You mean net?

Secretary LANE. Net; yes. They take the 6 per cent and use it for the maintaining of their plant at 100 per cent standard. For instance, take the Santa Fe (those figures as to revenues do not apply to that

road); that is their principle. That is the principle of the Pennsylvania Railroad. For many years that road received 12 per cent. It paid 6 per cent out on dividends and 6 per cent it used for the maintenance of its plant.

Now, then, that is a substitute for amortization, because when we come to buy those properties we buy them at 100 per cent of value, because they are maintained at that all of the time.

Mr. BROWN. So that in any event they would get all of the money back?

Secretary LANE. In any event they would get all of the money back

Mr. BROWN. The earnings and all?

Secretary LANE. They maintain the plant at its fullest standard. And I understand, from what these engineers tell me, that it is an easier thing to regulate those matters with hydroelectric plants than it is with any railroad, because you have an exact basis of cost all of the time; so a State commission, in dealing with this proposition, could say, "It costs you 5 mills a kilowatt hour for the generating of this power. In order to maintain your plant at 100 per cent efficiency and just as good as now we can set aside another 5 mills." And the State commissions undoubtedly would be justified in doing that. No commission under such conditions would hold a plant down to precisely the amount that it costs to generate the power and make a reasonable return.

Mr. BROWN. One more suggestion and I will be through. In section 10 should there not be in this bill, as a matter of law and not of regulation, that the supervisory authority should be able to inquire into the exact costs of borrowing money in addition to the amount of securities issued, which I do not think is in the section? If they have the power to regulate rates, they ought, at least, to know what goes in it as some basis; perhaps not the true basis.

Secretary LANE. Would you say we ought to have the power to determine at what rates they shall sell their bonds?

Mr. BROWN. Of course not.

Secretary LANE. But just simply to determine the question of fact—to find out what the fact was?

Mr. BROWN. You ought to know at what rate they sold their bonds and what premium they have to pay for money.

Secretary LANE. Undoubtedly.

Mr. BROWN. Because it seems that is a legitimate charge if it is not taken care of. Sometimes the bonds might be figured at par, whereas they would not sell above 85, and an injustice might be done in calculating on that basis.

Secretary LANE. Of course any Secretary would ask for that, but your suggestion is that it should be specifically provided?

Mr. BROWN. In the legislation. Because there there are 48 States where public utility commissions exist would it not help to clarify the situation by having it recognized as a principle?

Secretary LANE. We could not grant a public utilities commission any power by putting it in the act, but by giving that power specifically to the Secretary you show that is the principle to be recognized.

Mr. TAYLOR. You have no objections to giving municipalities somewhat the best of it if they have a municipal plant and sell the power to the inhabitants at cost, practically?

Secretary LANE. No.

Mr. TAYLOR. Another thing. I have not studied it enough to know, but I would like to inquire, referring to what I said a while ago, whether this applies to the little fellow, the man along the mountain stream through the West everywhere, who wants to have some power as well as the big one?

Secretary LANE. I suppose this would apply to every man who took up land under these conditions.

Mr. TAYLOR. It did not use the word "person," and I did not know whether that would come under the head of "agent" or whether, if we adopt this amendment on page 1——

The CHAIRMAN. As originally drafted it would.

Mr. TAYLOR. As originally drafted it would do that, but Mr. Pierce's idea was that we ought not to include them.

Secretary LANE. I think the more loyal you are to the original bill the safer you will be.

The CHAIRMAN. We thank you very much, Mr. Secretary.

STATEMENT OF MR. GEORGE OTIS SMITH, DIRECTOR OF THE UNITED STATES GEOLOGICAL SURVEY, DEPARTMENT OF THE INTERIOR.

Mr. SMITH. Of course, the purpose of this bill we are considering is like that of any other general legislation, simply to conserve the public welfare and, in this case, the specific end is public welfare through hydroelectric development on the public lands.

As I look at it, the parties whose interests must be considered are, first, the consumers, and I speak advisedly when I put the public as consumers first, although judging from some of the statements before the committee I might be led to assign to the public only secondary importance; but I venture to put first the public, as consumers. I refer to not only the local public, but also the general public, not only to the direct consumer of the power, but also the indirect consumer, meaning by that all those who use the products that may be manufactured through the use of the power in a certain locality.

Second, I would place as the other class of interests involved, the corporations as operators, and here we necessarily come in touch with large business as an essential factor. Those corporations would include, of course, the promoting and the operating companies, which are just as necessary to the hydroelectric development as the waters and the lands are to the power itself.

And, of course, connected with them is the investing public which should be insured security for the investments and a fair return on the capital invested.

These two interests, it seems to me, are not necessarily antagonistic, although I place them in the order mentioned. In reality I believe they are interdependent, and the tendency, I believe, in the years to come, will be to recognize more and more that interdependency, if you look at it in a large way. I mean that the power-using public, the consumer, is absolutely dependent upon capital and engineering skill, and that capital is no less dependent upon the public for a market. Neither can succeed in the long run by adopting any unfair

means. Burdensome regulations on the part of the public will not invite the capital needed, but will drive it away, and, on the other hand, outrageous service or exorbitant rates must necessarily affect the market, and in many instances destroy it.

Wise legislation, it seems to me, must coordinate these two factors, and in this coordination I would like to note that it has become axiomatic that private property rights must be subjected to public rights in the development of these natural resources for the common good. So it seems to me, as we take up this specific legislation, any amendment that has for its purpose the object of breaking down or weakening any one of the safeguards that have been written into this bill for the public good, will simply doom this legislation to defeat, and that will mean that the conditions which some of us recognize as unsatisfactory to all concerned will have to continue; you will have to put up with the laws that are at present on the statute books.

There are three features of the bill, I have noticed as I have sat here and listened to the different witnesses, that are especially objected to by most of the witnesses. And, as it happens, it is just these three features that appeal to me most strongly as essential to the legislation from the standpoint of the people.

First is that question about the discretionary power to be given to the Secretary of the Interior. Now, I keenly appreciate the confidence that has been expressed by so many witnesses representing the corporate interests in my chief, who has just been before the committee. I do not wish to throw any doubt on the sincerity of every such expression, and when I respond in similar tone I can tell you that I am asking you to write into this bill every possible provision that makes for certainty in the protection of the people, not because I have anything but the highest opinion of the corporations now engaged in water-power development and now seeking to acquire these water powers on the public domain. If I were going to follow those tactics I might add expressions of the highest confidence in all the officers representing those corporations, and then I would follow that up by saying I am not so sure, however, about the good will and the good faith of all the corporations that may follow in the successive decades [laughter]; that while I would trust any corporation which is now in the field, I do not know who may succeed them in interest.

Mr. GRAHAM. That sounds like plagiarism.

Mr. SMITH. I am trying to follow, Mr. Graham, the same line of thought and to throw bouquets to those who are present, and reserve the right to be afraid of those who are not present. Fifty years, it has been said by those representing the corporate interests, is a long time, and it seems to me in that time the importance of these water powers to the people of the Western States may increase. And it may be, perhaps, we won't know who 20, 30, or 40 years from now may be president of the Pacific Light & Power Corporation, the Idaho Railway, Light & Power Co., the Colorado Power Co., the Utah Power & Light Co., or even of the Puget Sound Traction, Light & Power Co. All these interests whom we may trust to-day might be succeeded by corporations that are not worthy of absolute trust on the part of the people, and it is going to be at the end of a few decades a real issue with the people who are served by these corporations, how they are going to be treated by them, because I do not

think we can put too strong emphasis on the fact that water power even now is one of the necessities of life—of the community life.

And so, while we have heard expressed here the doubt that attaches itself to the fact that there may be 20 years from now another Secretary of the Interior, I think we can place right up alongside of that the possibility that there may be a different group of financiers in possession of these corporations that now have so strong a hold on the industrial development of the West. I myself have not been so much impressed in the last few years with this matter of water-power control, but I am now being convinced by the men who have testified before this committee that there is more control in the Western States to-day than I thought, and also that the present purpose really is to strengthen rather than to weaken that control.

Mr. GRAHAM. Mr. Chairman, in that connection I had intended for some time, if it is not already in the record, asking that we put it in—that is, a statement of the water-power development now in existence and who the owners of these developed powers are.

Mr. SMITH. It may be, Mr. Chairman, that I have anticipated that, and have had prepared two tables, one showing the water power available in the power-site reserves of the western United States, and another table showing a partial list of the water-power plants in the western United States. That I call it a partial list is just simply a modest way of saying we have done the best we can. We believe the list is a fairly reliable one, but it is quite likely some existing plants have been overlooked, and there probably are certain errors in the statements of location and capacity of plants that are listed.

So these two tables are ready for the service of the committee.

Mr. GRAHAM. Let me ask a question in connection with that: Where the ownership is corporate, as I take it is in nearly every instance, do the tables give the names of any of the persons who are largely interested in the corporate property, and whether their directors are, and to what extent, interlocking directors, or anything of that sort?

Mr. SMITH. I would answer that I have not gone into that question of interlocking ownership. There are certain things that may come out in the course of my statement that would simply serve as illustrations, and I think a certain amount has been published along that line by the Bureau of Corporations, for instance. But I have not included that in this list, although the corporation named is given in each case as the owner of this or that plant.

Mr. GRAHAM. My information is, and it is very general, that in one of the large concerns in the far West the Morgan interests are very prominent; that Mr. Baker, who is probably the most numerous interlocking director in America, is considerably interested in it.

Does your table go into it to that extent?

Mr. SMITH. Not at all.

Mr. GRAHAM. Does it show who the holders of the mortgages on these properties are?

Mr. SMITH. No; we have not any data——

Mr. GRAHAM. I assume that they are all mortgaged?

Mr. SMITH. We have not made a specialty of that kind of information, although in certain cases, whenever we get information of that kind, we simply file it.

Mr. GRAHAM. Would it be feasible for the committee in some way to get the information along the line I suggest showing, in a general

way, to what extent, if at all, these properties, so far as they are developed, are drifting under the control of large financial interests, either by ownership of the stock or by mortgage or bond holdings?

Mr. SMITH. I think there has been a report prepared on that by the Bureau of Corporations, and it may be that they have further information than that already published. I know they have published certain charts and diagrammatic maps showing such connected interests.

Mr. GRAHAM. Would it be feasible and convenient for you in your department to delegate one of your men to run that down for us and insert it at this point in the record in connection with your statement?

Mr. SMITH. I will see that whatever has been published and is available, either already published or in the hands of the Bureau of Corporations, will be furnished to the committee.

(The statements above referred to, together with the lists furnished by Mr. Smith, will be found as Exhibit N in the appendix.)

Mr. SMITH (continuing). I simply suggested that that argument directed against the feature of the bill which has apparently bothered somewhat those representing the power companies, works both ways; there is equal danger, it seems to me, that in the future some of the officials of these corporations may prove themselves arbitrary and unfair and inclined to discriminate against the consuming public or to impose upon them terms that are not as easy as those now offered to the same community by those whom we will call, for the sake of the argument, high-minded officials of to-day, referring to the corporate officers of to-day.

It is the future, really, I think, that this bill is mostly concerned with, because the future possesses possibilities; and it is because I trust neither the corporations of to-day nor those of to-morrow that I urge the careful consideration of these particular safeguards which, I believe, are the most important provisions in the bill.

I have sat here and listened to the argument I have just referred to, and I must express my own feeling that it is, as it seems to me, nothing less than insolence on the part of big business when witness after witness comes before a congressional committee and argues that a Cabinet officer 20, 30, or 50 years hence is not to be trusted to deal fairly with all comers; because it seems to me that is the kind of charge that has been made to this committee. And, as I look at that kind of a charge, it is simply an insult upon our citizenship. If we can not trust the executive officers of the Government and give them discretionary power, what are we to do? Are we to leave the discretionary power with the corporations who are the other parties, and who may appear in application for a permit or a lease under this bill? I realize I am laying myself open to the charge that I am speaking against corporations in general. I believe this kind of development is a matter that necessarily must be, in a large majority of cases, handled by corporations, and by large corporations. But even where big business is essential to this hydroelectric development, I do not feel it is necessary for us to allow big business to monopolize, not only the development, not only the capital and the control of these natural resources, but, in a way, following it logically, to monopolize the civic virtues. And I think it is fair for

somebody to sit here with the committee and ask that part of these civic virtues be reserved to a Cabinet officer who may be charged with the administration of this bill 20 or 30 years from now.

The matter of putting in these safeguards seems to me a very important one, if this legislation is to be effective for the future. It is to declare principles at the present time; but I believe that it should be general in its terms, and declare principles rather than set forth specific details of administration. The policy, I think, you are considering is the one that should be so clearly set forth that it will stand until Congress acts again. But the administrative details should be allowed to change with every advance in engineering requirement or every advance in the utilization that is made of hydroelectric energy. The statutes can not do away with regulations, or else you will get a statute that is so inelastic that it will really work a hardship upon many of those who might wish to benefit by it.

So I am making this appeal for certain discretionary powers to remain with the Secretary of the Interior, and also that the Secretary of the Interior be charged with the adoption and promulgation of general regulations. It seems to me that a mandatory statute can not give the best results. You can not get a single statute of anything like reasonable length to cover anything like the local conditions of to-day, much less foresee the requirements of the future.

Mr. RAKER. Doctor, right there: You would give municipalities a free hand, with reasonable conditions surrounding them when they obtained it, would you not, to obtain all the hydroelectric energy they could?

Mr. SMITH. Oh, for municipal use, certainly.

Mr. RAKER. That ought to be given as freely as could be.

Mr. SMITH. That ought to be for the people to develop for their own use. There should be only a minimum charge, if any charge.

Mr. RAKER. And if they have the right, of course they are regulating the question of rates themselves, within their own municipality, and would require but little regulation so far as the Secretary of the Interior is concerned?

Mr. SMITH. I should think there the question of regulation by the representative of the Federal Government would be reduced to a minimum that would be almost invisible.

Mr. RAKER. Doctor, just in this connection, before you pass on: Do you take into consideration in your statement now, the fact that all of those who obtain the right to use certain lands from the Government are under the public utilities commissions of the States; and if the State has no law, then under the Secretary of the Interior?

Mr. SMITH. Why, of course. I was going to speak of that later, but I will just say here that it seems to me that no one should object to there being two safeguards put into this bill for the protection of the public. There are cases I may cite later where the one safeguard is insufficient; and I think if we are legislating for the people rather than for the stockholders of a corporation, that no one is harmed by putting in a double check.

Mr. TAYLOR. Is it not true that wherever there is a State and a Federal law, the Federal always supersedes and controls the State; so that, in other words, the State amounts to nothing?

Mr. SMITH. Oh, that matter is before the Supreme Court at the present time, in a rate case.

Mr. TAYLOR. I mean as a matter of practice.

Mr. SMITH. Well, there is a rate case involving that principle before the United States Supreme Court; and it would be presuming for a geologist to pronounce on that doctrine before the Supreme Court decides it.

I will grant that there may be a chance in the next half century, or the next century, here and there, of a case of arbitrary action on the part of some executive officer; but I want to leave with the committee the question, which is it better to do—to take a chance on the arbitrary action of the Secretary of the Interior, which may possibly result in the hurt of the stockholders of the corporation, or to take our chances on the arbitrary action of the corporation officer to the hurt of the consuming public?

Mr. JOHNSON. I understand that the proposition here is to enact into positive law and throw off the control of the Secretary by positive enactments.

Mr. SMITH. The point is, that issue is introduced by one of the first amendments that was proposed to make this law mandatory on the Secretary of the Interior. Anybody who comes up with an application for permit gets that permit or gets that lease, taking away from the Secretary of the Interior any discretion. I think when you make it mandatory on the Secretary of the Interior you leave the discretion in the premises with the applicant for the lease, and it seems to me that in specific cases it can easily be seen that that would result in the tying up of a large number of water-power possibilities by single or grouped corporations.

Mr. JOHNSON. Has not that been the policy of this Government from time immemorial—to leave it mandatory?

Mr. SMITH. The 1901 law is not mandatory, and that is the water-power law under which we are acting at the present day.

Mr. JOHNSON. I have so far referred to the disposition of Govern ment lands in general.

Mr. SMITH. It is mandatory in the case of the homestead laws.

Mr. JOHNSON. Is it not mandatory in every land law?

Mr. SMITH. I cited the 1901 law, which has been interpreted not to be mandatory, and that is one of the public-land acts.

Mr. JOHNSON. It is mandatory under the permission given, was it not?

Mr SMITH. Yes. You are speaking of the laws for the acquirement of land?

Mr. JOHNSON. It was mandatory under the homestead act.

Mr. SMITH. Yes.

Mr. JOHNSON. Mandatory under the desert-entry act, was it not? I mean bringing it within the terms of the law, not within the terms of the particular idea of the Secretary of the Interior, but within the terms of the statute. Is that not right?

Mr. SMITH. That is true.

Mr. JOHNSON. And it has been so with reference to the mining industry, has it not?

Mr. SMITH. When you get to the mining industry we find that in a good many cases the land is practically acquired without the ap-

plicant, the user of the land, even coming before the Land Department.

Mr. JOHNSON. That may be true in cases, in all cases where they have the price fixed and terms under which the title may be acquired. There is no discretion there, is there?

Mr. SMITH. No discretion, provided, of course, it comes within the terms; and, further than that, I believe that in effect the 1901 law, while it is permissive in its terms, is really mandatory, provided the man comes within the terms.

Mr. JOHNSON. Squarely within the terms of the statute?

Mr. SMITH. Squarely within the terms, it is mandatory in the sense that I do not see how any Secretary of the Interior could, without just reason, refuse a permit under that law.

Mr. JOHNSON. Have you any special reasons to advance why that policy should now be changed?

Mr. SMITH. We are substituting the present law for the 1901 law, which is not mandatory, and I think neither should this be mandatory. I think that most of the trouble that comes in the execution of the law comes by reason of the mandatory character of so many of these laws. Injustice is done to the homesteaders by reason of the fact that there is an inflexible law which the Secretary has to administer. I think that the recent modifications of the homestead law are along the line of allowing more discretion on the part of the officer administering that law.

Mr. JOHNSON. Pardon me, but that is not true with reference to statutory enactments. But in what way has the homesteader been injured by the mandatory law?

Mr. SMITH. Simply in many cases, and I know of cases also under the mineral land law where the statute says a definite thing, but equities clearly shown in the case would move the executive officer, if he had any discretionary power under that law, to recognize and give full allowance to such equities.

Mr. JOHNSON. Doctor, you do not believe in the theory, do you, in this Government, of abrogating the legislative department to that of the executive department?

Mr. SMITH. I beg your pardon.

Mr. JOHNSON. You do not believe it would be a wise policy for the abrogation of the legislative part of this Government and its commission to the executive department?

Mr. SMITH. Not at all, Mr. Johnson, but I believe the two should coordinate; they should mesh to such an extent that the policy, the purposes, of the legislation should be clearly set forth on the part of the legislative branch of the Government, and the executive department act as the agent of the legislative branch in carrying out that purpose. Now, to carry out that purpose the local conditions, and those varying from time to time, must be taken into account, and I know of case after case where hardship has been done simply because it was an inflexible law which the Secretary of the Interior or some other officer was asked to administer.

Mr. JOHNSON. You believe in the theory that the legislative branch should enact the law and the executive should enforce such laws as have been enacted?

Mr. SMITH. Yes; certainly.

Mr. JOHNSON. And not go beyond that, don't you?

Mr. SMITH. I do not for a moment think that the executive officer should go a step beyond the declared purpose of the legislative department. I believe that there should be general legislation which will be made to fit the particular case through administration by a faithful member of the executive branch.

Mr. JOHNSON. I understand from your statement, Doctor, that you propose to commit a certain amount of legislative discretion to the executive department.

Mr. SMITH. Well, the difference between us probably would be on the definition of legislative. I think that general instructions on the part of the legislature are better sometimes than specific instructions, to carry out the very purpose of those instructions.

Mr. JOHNSON. Of course, it leaves the executive more leeway to act.

Mr. SMITH. And it imposes upon him a greater responsibility, and if he does not want to take that responsibility, and if he does not want to carry out the duties that come with that responsibility, he should not occupy the position.

Mr. RAKER. Under the first section of this bill, if the Secretary had discretion as to whom a permit or lease should be granted, it would be clearly legislative, would it not?

Mr. SMITH. I suppose I am not enough of a lawyer to really know just what legislative means, but I do not believe that discretion necessarily is confined to the legislative department. I believe that an executive officer can and should exercise discretion, and when he exercises discretion I do not understand that that is necessarily legislation.

Mr. RAKER. But if the bill provides the conditions or surroundings that must obtain with this company or association or individual, or what he must do after he gets it, or how he must carry it out, and the time, etc., now if the Secretary had the right to say that if two parties, both appearing with like conditions and like surroundings, if the Secretary could choose one from the other, it would be clearly a legislative function, would it not?

Mr. SMITH. I think, following the practice of the administration of many of the laws, the first in time would be the one that would be given the preference under those conditions.

Mr. RAKER. Well, then, that carries out the view that appeals to me in this first section, that if any party who comes within the rules and regulations, and comes within the law, and has the qualification—he must carry out these provisions of the law to have a right—the Secretary ought not to say that Smith can have it because he is redheaded, and we will deny Jones because he is baldheaded.

Mr. SMITH. I do not consider that any Secretary of the Interior, appointed by the President of the United States and confirmed by the Senate of the United States, would be the type of man that would take any such arbitrary action as that.

Mr. RAKER. The only trouble is—and I want to say once and for all, in discussing these matter I eliminate the personality of the executive officers and the legislative officers and all—a new generation comes on and takes up the whole subject, and I have always supposed that that has been the view of legislation, and that is what I am trying in my own feeble way to obtain information from men like yourself, Doctor, whether or not you do not believe it is better, you get better results, where those who are qualified and comply with

the law come to the department seeking a right that the Government has, he ought to have it without any question.

Mr. SMITH. I do not think that a man would be denied under this or any other law if he complies with the conditions set down in general terms in the law, and with more detail in the general regulations under that law, and I believe that we must realize that every law, even the mandatory laws, have to have 6 or 8 or 10 pages of general regulations to explain them to the public and to explain them to the administrative officers.

Mr. TAYLOR of Colorado. We did not formerly have to do that, did we?

Mr. SMITH. I think we are discussing a very important part of this bill, which I think is properly safeguarded in the bill as originally drawn, which provided for general regulations, not particular regulations that would differentiate between a redheaded Smith and a baldheaded Jones, but regulations that would simply amplify the provisions of the law as passed by Congress.

(At this point a recess was taken until to-morrow, Thursday, May 7, 1914, at 10 o'clock.)

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Washington, D. C., May 7, 1914.

Pursuant to adjournment, the committee met at 10.20 o'clock a. m., Hon. Scott Ferris (chairman) presiding.

STATEMENT OF MR. GEORGE OTIS SMITH—Resumed.

Mr. RAKER. Dr. Smith, in the report of the Public Utility of Water Powers and their Governmental Regulation, Water Supply paper 238, dated 1910, I find here, chapter 1, introduction, by M. O. Leighton—may I read a little of this and ask you a question about your view of the matter?

Mr. SMITH. Certainly. That was published while I was director.

Mr. RAKER. Page 6:

Consolidation is inevitable. Water power is a natural monopoly by reason of the natural laws of stream flow. Man can not change these laws, and his only course is wisely to adopt himself to them so that they may not operate to his disadvantage. The electric transmission of power developed on water wheels has changed the entire industrial aspect of the matter. When a water power was used at the site and its industrial development was limited to its capacity there, no reason existed for consolidation; now the site of the water power plant is not likely to be its field of operation; its power is distributed over a large area. In this large area there is a common demand for power, and the market constitutes an administrative unit. The demand of a region is demand in the aggregate. The power on any stream fluctuates with the seasons. The important power demands are those which require a certain steady supply and a large reserve for extraordinary demands or "peak loads." As the demand increases with the development of industry the task of supplying it from one fluctuating stream grows more difficult. The energy developed on several sites or on several streams must then be transmitted to supply the market.

With a still continued increase in demand, more sites and streams must be brought into use.

In the final analysis, therefore, all sources of power available for a particular field of demand must be brought under a common administration, so that at any time the energy can be turned hither and yon to meet the requirements of each hour. It follows that regulation prohibiting power monopoly must not

prevent power consolidation, lest it injuriously affect industrial development. There is no virtue in preventing consolidation if economies in maintenance and operation are thereby prevented. No one will deny that water power consolidation secures distinct and unusual economies, and if the consumer receives the benefit therefrom he is better off under a consolidation. These are oft-stated and self-evident truths; therefore the proper solution of the problem must lie in the legislative regulation of water power development and maintenance, to the end that the consumer shall pay a fair and reasonable price for power, consistent with the production of fair and reasonable earnings on the capital invested.

Would that be about your view of the situation to-day, Doctor?

Mr. SMITH. I doubt if I would suggest an amendment of that language to any great extent. I should want to state that the natural monopoly which is described there, can be absolutely beneficial to the consumer in the matter of decreasing cost, and also, what is equally important to the consumer, in increasing efficiency of service, reliability of service. That is the one side. There must be taken with that a certain limitation upon what the extent of that natural monopoly really is, and I think that we have cases already where the consolidation of existing power plants, the linking up, not so much of power plants as of different companies, a financial rather than physical consolidation, is really working to the disadvantage of the consuming public. We are building up entities under the law that are so powerful that they threaten the consuming public.

I do not know but this would be as good place as any to suggest one such company, and I refer to the Utah Securities Corporation, which at the present time operates 30 hydroelectric stations and which has a total water-wheel capacity of 97,000 horsepower. It has one station also building with further capacity of 27,000 horsepower, and it has steam plants—I presume that they are auxiliary in large part—to a capacity of 23,700. Some of those are on private lands and some are on public lands and the status of still others is in doubt. Some of us believe that they are on public lands and in trespass. Those plants are situated in three States—Utah, southern Idaho, and western Colorado. I do not consider that that falls into the category of a natural monopoly. I believe that that is a combination of companies for the purpose of controlling the situation over that large area. I was going to refer to it on the map, but I think you can have it in mind as taking up parts of three States.

Mr. SINNOTT. Are any of them subject to public utility regulation of any of the States?

Mr. SMITH. Now, you touch right upon a subject that I think ought to be brought up. I was going to mention this later. It touches upon this very contention which is brought forward, of the advantages of considering water power as a natural monopoly. You have had witnesses before you who say that in order to effectually serve a community there should be only one water-power corporation furnishing the consumers there with electrical energy. That is the proposition, the theory, that is put forward, and I subscribe to that theory. But I want to bring to the attention of the committee that these corporations do not take their own medicine. They do not live up to their theories. A case in point, and it answers Mr. Sinnott's question, is that out in Idaho, one of the States which I mentioned as being served by these water powers of the Utah Securities Corporation, there are two cases where an appeal has been taken from

the decision of the public utilities commission, and in both those the issue is the same. The public utilities commission decided that the service in the one case in the city of Twin Falls and in the other case Pocatello did not warrant the taking in of a rival company for the purpose of duplicating transmission and distribution lines. That was recognition of this principle of the natural monopoly feature, and yet these companies have appealed from that decision, and I read from that appeal the following, in which they deny the constitutionality of the act:

That the legislative act of the Legislature of the State of Idaho creating said defendant commission is repugnant to and in violation of the constitution of the State of Idaho and of the United States, and violates, is repugnant to, and denies the validity of the contractual rights of the plaintiff under the franchise granted by the city of Twin Falls, and against the Constitutions of the State of Idaho and of the United States.

They are in favor of regulation by the State in theory, but here is a case where it seems to me that it is for the public interest that the service in a city should not be duplicated, and it is the power company that appeals from the decision. So it is a question right there whether they are effectually regulated. At least they are rather strongly appealing from the regulation attempted by the State of Idaho.

Mr. RAKER. Doctor, if they are properly and effectually regulated, as suggested in this which I have just read, and proper service is given to the public, and a fair and reasonable earning on the capital invested is permitted, that ought to protect both sides, ought it not?

Mr. SMITH. I think that by protecting one side it will in the long run protect the other.

Mr. RAKER. In other words, that is what we ought to strive to do in this bill; that is what I am figuring on.

Mr. SMITH. Absolutely; and we ought, it seems to me, to place every possible provision into the bill that will safeguard the interests of the public, and in the long run it will safeguard also the interests of the investing public and it will safeguard even the interests of these companies themselves. In Idaho, or in either of those States, the commission is right, I believe, in reserving the territory to either one company or another. In both cases I understand the city is already served.

Mr. RAKER. In this same connection, at the hearing on development and control of water power of November 23, 1911, I find Mr. Pinchot making this statement, page 152:

The public is also entitled to continuous operation of the plant; that is to say, the public ought to be protected against the artificial production of high prices by limiting the output. I am very strongly in favor of the consolidation of water-power plants, coupling them up over large areas. The argument made for that consolidation in the brief submitted by Mr. Dunn on behalf of the American Institute of Electrical Engineers is absolutely unanswerable, and I have long held the same opinion. Better service to the community would be forthcoming if water-power companies operated over large areas. But there must be public control of their operations to prevent the benefits which come by reason of such consolidation from being translated into a general overcharge on the consumer. Then there should be an absolute veto on speculating; that is to say, on the assignment of privileges. I want to distinguish there between the selling of a franchise to somebody else and the consolidation of franchises by the coupling up of plants.

That would be the same view as you have expressed?

Mr. SMITH. Yes.

Mr. RAKER. I find Mr. Fisher at the same time, on the same day, making the following statement, on page 186:

I do not think there should be any provisions in these grants against so-called combinations or monopolies, but do believe there should be no assignment of the grant without permission of the Government. I think hydroelectric development is essentially monopolistic and should be essentially monopolistic in its character. That is why I think it should be effectually regulated. I think they should have the advantages of the control of the market and freedom from harassing and vexatious competition if we are going to put them under the disadvantages of effective public regulation.

How does that accord with your views?

Mr. SMITH. Of course I agree with that. I notice the word "disadvantage" there. I will not admit that the right kind of regulation is going to be in reality a disadvantage to the company regulated when we come to see it in a broad way, because, as I said yesterday, I believe the corporation serving the people and the people who are served by the corporation are interdependent, and when you benefit one you have to benefit the other. While it may decrease present profits, it will add security to the investment which will offset that. Instead of having a speculative investment you will have a gilt-edged security.

Mr. RAKER. Doctor, your view would not be that there should be a regulation of the price during the term; for instance, you make the term 50 years.

Mr. SMITH. You mean regulation of charges?

Mr. RAKER. Of charges, yes; by the company receiving the lease from the Government.

Mr. SMITH. I think the lease from the Government should be as certain in its terms as possible.

Mr. RAKER. And when entered into should extend during the period?

Mr. SMITH. During a period. There are some arguments for making that period less than 50 years, and there are some arguments for making it the 50 years.

Mr. RAKER. What I wanted to ask you was this: If the lease is made for 25 years, the amount fixed should remain during the 25 years?

Mr. SMITH. What it is to be during the 25 years should be known.

Mr. RAKER. That is what I mean.

Mr. SMITH. It is not necessarily the same for the twenty-fifth year as for the first year.

Mr. RAKER. I am talking about the Government charge entirely.

Mr. SMITH. I want to emphasize the fact that I place very little importance personally upon this matter of the revenue to the Government. This is not a taxation measure; this is a regulatory measure, and we must not think of the 25 cents or the 50 cents or the dollar as so much revenue to the Government. It is simply a means to a very much more important end, and that is effectual regulation, and I believe you should allow for combination of plants and combination of companies, to the end that there should be full monopoly wherever monopoly is natural.

Mr. RAKER. Always subject to proper regulation?

Mr. SMITH. There should be not only regulation, but it should be the most effective regulation that can be devised, because you are going to deal not only with large units to regulate, but you are going to deal with very powerful interests, which is just where we do not want to rely simply upon the power of a municipality or of the State. but we want to link up with those, it seems to me, the Federal power, to the end that we will have regulation that regulates. The Federal Government is none too large or powerful to deal with some of the corporations that are already entrenched in the western fields.

Mr. RAKER. Mr. Fisher further states:

The question has sometimes been asked how the investor is going to be protected in these periodical readjustments if he has nothing to say about that? Well, they have worked that out in one way over in Canada in connection with the Niagara Falls-Canadian development, and the same principle has been worked out in other ways in other jurisdictions. Of course there can be provision that the appraiser can be appointed by some impartial tribunal, some tribunal which will secure as high a degree of impartiality in the making of the appraisal or the readjustment of a compensation as is possible. But if we retain the plant or the Government appraisal or the readjustment there should be a provision protecting an interest return upon the fair value of the property, with the right of the grantee to go into court and to enforce this right. I do not believe, however, that merely an interest return on money invested in any of these enterprises will encourage investment.

What would be your view as to that idea, Mr. Smith?

Mr. SMITH. I think, of course, that merely the interest return, such as the interest return that the investor can get from a United States bond or a municipal bond, is not a sufficient return to warrant his investing in a public utility, in which there are some opportunities, as has been called to the attention of this committee, for mistakes—engineering mistakes—as was stated, I believe, before another committee by Mr. Cooper, when he gave the list of failures. But, on the other hand, I do not believe that a fair return means an interest return on every possible element that can be capitalized. The proposition has been made to the committee to strike out those words on page 4, line 12, of the bill, "or any other intangible element." I believe those words should be left in; that there are a number of intangible elements which the power companies might try to capitalize. I was interested last night in looking over again one of the decisions of the public service commission of New York in the Buffalo rates case, as it is termed. This decision bears directly upon that question of intangible element, which the Cataract Power & Conduit Co. tried to capitalize, and when one capitalizes anything it is for the purpose of securing a fair return, and in this case it was the question of capitalizing their contracts with the Niagara Falls Power Co. The decision of the commission, which was written by Chairman Stevens, was to the effect that such a contract should not be capitalized, and I think that I might introduce a quotation from this decision as bearing upon some of the questions before the committee. Of course the matter hinges upon the fact that the Niagara Falls Power Co. had contracted to sell power to the transmission company at $16 per horsepower. That was a contract which was given a value on the books of the company receiving the power at that price, and they tried to capitalize that contract on the basis that steam power at Buffalo would cost from $25 to $28 per horsepower at the lowest estimate.

Mr. CANTOR. Was that an application to issue bonds?

Mr. SMITH. No. This was a complaint brought by the mayor of Buffalo against the company furnishing the power to the city.

Mr. CANTOR. For taxation purposes?

Mr. SMITH. No; not for taxation, but for the fixing of rates to the public. It was argued that, as there was a difference of $9 per horsepower per annum between steam power and this contract price for hydroelectric power, the saving, capitalized at 8 per cent, would be over $4,000,000, as stated by the company in their brief, I think. They felt that they took advanced ground in that they conceded it might be fair to all parties to divide the advantages of generated electric power between the public and the people whose enterprise makes the utility possible. On that basis the company contented itself with placing the value of this contract at $2,000,000, and on that they wished, of course, to receive a fair return from the consuming public. The commission, however, as I say, ruled against it, and they took the ground that the public should have a large interest in the saving by the use of hydroelectric power, and I make this quotation:

"Such results as these will never satisfy the elementary sense of right and justice in the mind of any man with regard to the use of Niagara generated electric energy. No generating company using the waters of Niagara River owns these waters or has any right or title to them whatsoever. By the permission of the Federal Government and of the State of New York the generating companies operating at the Falls are given the free use of these waters in the production of electric energy. To say that by having been given the free use of those waters for that purpose they are vested with an unassailable right to charge as much for the electric energy developed as they would for energy developed by steam plant is a proposition which requires to be maintained rather than to be refuted. It may very well be that these companies are entitled, in view of all the circumstances of the case, to a liberal return upon the capital actually invested in developing the energy. It may very well be that the people exploiting the enterprise are entitled to large, and even very large, profits for the skill they have displayed and the risk to which they have subjected their capital. It may be that the public ought to pay them very liberally for the work which they have carried on in the public interest; but to say that the public is entitled to no advantage from the use of these waters, that the territory which can be served with electric energy developed at Niagara Falls has no advantage and is entitled to no benefit by reason of proximity to those Falls, is to say something which does not appeal to the best judgment of mankind for an instant."

If I understand that proposition, of course it applies equally well in the West.

In fact, a similar illustration could be cited from California, where the Northern California Power Co. applied for a readjustment of rates. The California commission found that this company had declared a valuation of $20,000,000 upon its property. It developed that $11,000,000 had gone into the property and that the company claimed the balance for water rights. The commission takes the stand that the par value of the stocks and bonds does not furnish a standard for rate-fixing purposes. It discusses the suggestion that hydroelectric power companies be allowed to capitalize their water

rights. No ruling is made, but the commissioner refers to the proposal for such capitalization as a desire to capitalize the "generosity of the public."

The utilization of these natural resources should be for the benefit of the people, and while they should pay certain charges that have been earned by the companies making such development, it seems to me that the advantages that are inherent in the presence of water power in such a site should go to the benefit of the people of that locality or of that State.

Mr. CANTOR. Was an appeal taken from that? I do not recall.

Mr. SMITH. I have no record that there was. That has been just about a year ago that this was decided, and the complaint of the mayor of Buffalo was sustained in that there was a reduction of 28 per cent in rates. But here is an instance where the State regulatory power apparently is without full efficacy, namely, that they could not go back of that contract with the Niagara Falls Power Co. for $16 per horsepower and determine whether that was a reasonable rate to be paid for such horsepower, by reason of the fact that the Niagara Falls Power Co. did not come within the jurisdiction by reason of its being a generating company which did not sell for distribution, but sold only for transmission purposes. There was a technical defect by which it did not come within the jurisdiction, and the rate might still be exorbitant, but the commission could not rule upon that. And that is not a single case; there are many cases, and I think the committee should take them into consideration, where the company actually generating the power may escape the jurisdiction of this or of that State.

Mr. CANTOR. In the case you speak of, they are really owned by the same people?

Mr. SMITH. Oh, yes; there is no question about that. It is simply, as has been stated here, taking it from one pocket and putting it in another pocket, although that argument has been used in another connection.

Mr. CANTOR. And it is the same pair of trousers, it is suggested.

Mr. SMITH. Yes; that is the technical distinction, different pockets but the same trousers. Another case in New York, which should be kept in mind as illustrating this point, is one of the subsidiary companies of the Aluminum Co. of America, which was represented by a witness before this committee, on the St. Lawrence River. The St. Lawrence River Power Co. furnishes power to the Messina Electric Light & Power Co. and the St. Lawrence Transmission Co., but by an arrangement of corporate interests, while there is a certain community of pockets, the St. Lawrence Power Co. not only avoids any publicity in its operations, but effectually prevents public control of the rates it may charge for its product, and that rate, of course, is passed on to the public.

I am speaking of some of these cases simply to show how strongly entrenched some of these companies are, and, in my opinion, it is not wise, in considering legislation, to leave unutilized any possible method of control. The public-service commission that is going to serve the people effectively must take into account not simply the physical valuation of the plant, but it must go into the matter of issue of securities, as some of them do already.

It might be stated that while I have been talking about New York State, much the same is true in some of the Western States as well, because only last month, I believe, the Oro Electric Light Co. entered the city of Stockton, I believe it was, and the State commission attempted, in the interest of the right kind of service, to keep them from that city, but they claimed that by reason of the franchise of the city they had a right in the city, and here again the service was not allowed to be controlled by the State commission in the interest of the natural monopoly.

The point that I was making when the questions began yesterday was that, in my opinion, discretionary power must be vested in the executive officer of the Federal Government intrusted with the administration of whatever legislation is passed. It seems to me that not only such delegation of power is absolutely necessary, but I believe that such delegation of power is absolutely safe.

The second point that has been touched upon with considerable emphasis by different witnesses, and one which I wish to mention, is the question whether there is to be any regulation of hydroelectrical development attempted by the Federal Government. I have been impressed—and I have already spoken of this incidentally—with the unanimity of opinion expressed with regard to State regulation of rates. I think that State regulation of service should also be placed in the same category, and I have wondered, as there has been so much expressed favoring State regulation, whether it was the usual expression of faith on the part of new converts. I wonder why there should be such trust in the efficiency and fairness of State boards and seemingly a lack of confidence in the Federal executive officers. But I think that the safe proposition is to provide for both agencies, that both can work together when it is advisable, and in the event of the State regulative agencies not being effective the Federal agency can be called in. As I stated a few minutes ago, I believe that it will be found there will be plenty for both agencies to do. That it is a big problem, and we have to deal, as will be shown by the paper that I hope to introduce at the request of Mr. Graham, with corporate interests that are concerned with hydroelectric development in the West that are not corporations confined to this or that State, but they are corporations extending, as in the case of the Utah Securities Corporation, over three States, and that this, that, and the other corporation are linked up together, in some cases by stock ownership, in other cases by interlocking directorates and—equally important, it seems to me—by certain community of interests which is not expressed in any records, simply because it is intangible.

Mr. JOHNSON. Might I ask a question? Now, you are doubtless familiar with the electric-power plants of the State of Utah?

Mr. SMITH. I know of them; yes.

Mr. JOHNSON. You spoke of one controlled by the Utah Trust Co.

Mr. SMITH. The Utah Securities Corporation.

Mr. JOHNSON. Do you know how many independent corporations there are operating in that State?

Mr. SMITH. In the list which I had here and put in the record yesterday there are perhaps a half dozen municipalities in the State that have their plants.

Mr. JOHNSON. I only want to know approximately; I do not care to consume any time looking for them.

Mr. SMITH. Those are small plants, 1,000 horsepower and under. And then we have, of course, a Reclamation Service plant on the Spanish Fork, and then the large number of plants—I think 18—that are under the Utah Power & Light Co., 4 under the Utah Light & Railway Co. and 4 under the Beaver River. The largest amount of power, of course, in that State is under the Utah Power & Light Co.

Mr. JOHNSON. You are familiar with the Telluride Co.?

Mr. SMITH. Yes; that is under the Utah Securities Co.

Mr. JOHNSON. Have you no distinct recollection of the number of plants in that State? I do not mean municipal plants, but independents.

Mr. SMITH. I have listed here 44 plants in all, and that includes some that are very small.

Mr. JOHNSON. With the exception of the one you have mentioned, the plants are all small, are they not, comparatively speaking?

Mr. SMITH. With the exception of those that are under practically the same management, they are small plants.

Mr. JOHNSON. I want to state that in my State (Utah) there are 27 counties, and in my county, which is Sanpete County, there are seven independent plants running in that one county.

Mr. SMITH. Some of those being city plants?

Mr. JOHNSON. There are two city plants; there are five independent corporations in that one county.

Mr. GRAHAM. How small is the smallest of them?

Mr. SMITH. The city of Hyrum is one of these?

Mr. JOHNSON. No; that is in Sanpete County.

Mr. SMITH. In Springville, the electric light company, for instance, is 135; Cedar City is 125 horsepower.

Mr. CANTOR. Do they sell power or use it themselves?

Mr. JOHNSON. They sell it.

Mr. SMITH. This is not municipal?

Mr. CANTOR. Small plants.

Mr. JOHNSON. Small. I ought to ask whether in your judgment those small plants should be subject to the same rules and regulations with reference to Federal control as the larger ones.

Mr. SMITH. Right there I would say one of the advantages, it seems to me, in having an elastic law; I mean a law that expresses policy rather than administrative details, as in the case of the municipal power plant, there should be no charges by the Federal Government; that would be simply taking from one pocket of the people and putting it in the other pocket of the people.

Mr. JOHNSON. You spoke of control. Do you mean that the Federal and State control should be concurrent, both exercising control with reference to the same subject matter, or each matter differentiated and definite?

Mr. SMITH. In the case of the Utah Securities Corporation and the plants under them, I think we will agree that neither Utah, Colorado, nor Idaho can control that corporation.

Mr. JOHNSON. I think perhaps that should be under Federal control. I mean with reference to those who are operating exclusively within the State, those small plants.

Mr. SMITH. As to these small plants I do not feel that any control should be exercised by the Federal Government, but I think there should be authority given to the Federal Government in order that in event of State control not being exercised Federal control could be exercised.

Mr. JOHNSON. Where those corporations, as the great percentage of them are, are located upon private lands, do not come in any way in contact with the Government, would you still be of that same opinion?

Mr. SMITH. I think there are some things that have passed beyond reach at the present time, and that makes it all the more necessary that as we look ahead we do not repeat any mistakes that have been made in the past.

Mr. JOHNSON. You think the Government should come in and control those plants which are owned by private corporations situated entirely on private property; they should be subject to Federal control?

Mr. SMITH. When they are interstate I think they should, just as much as railroads.

Mr. JOHNSON. I am talking about these small plants.

Mr. SMITH. Intrastate, I do not.

Mr. CANTOR. They could not be.

Mr. SMITH. I do not see how they could.

Mr. JOHNSON. I just wondered what the opinion of the doctor was on that.

Mr. SINNOTT. Could they be when they are hooked up?

Mr. SMITH. When they become interstate I think, if possible, they should be brought under effective control.

Mr. SINNOTT. I mean if they are hooked up with the parent plant which the Government grants the right to use in this bill?

Mr. THOMSON. Even though they do not become interstate?

Mr. SMITH. I think whatever right the Federal Government has should be retained. As a practical proposition I do not believe that there is any trouble at all—taking the State of Oregon, with which the Federal Government has had cooperative arrangements of various kinds during the past decade or so—I do not think there is any trouble at all by the Federal Government and the State government being hitched up double and working as a team in the interests of the public.

Mr. GRAHAM. You do not hear any objections now, do you, to the operations of the new Federal Mining Bureau, in going out to accidents in the States, and joining in with the State authorities to the great advantage of everybody?

Mr. SMITH. Passing from Oregon to Illinois, as a practical matter, there has been no difficulty at all with the Illinois authorities effectively cooperating with the Federal authorities in the matter of the activities of the Federal Mining Bureau.

The CHAIRMAN. Why should the matter reach any more marked proportions, so far as complications are concerned, in having the Federal Government and State government work hand in hand in these matters, than they do in the local rate-fixing boards and the National Interstate Commerce Commission in fixing the rates of railroads and carriers?

Mr. SMITH. I think the tendency is more and more toward that control that makes for the common welfare. In my own personal work, as a field man, and later as an administrative officer, I have had very little sympathy with the person who always sees a State line when he crosses it. The country appeals to me largely as one country, and not as a group of individual States with fences around them.

Mr. SINNOTT. This bill, Doctor, would grant precedence to the Oregon Utilities Commission, would it not?

Mr. SMITH. Yes; it would; and it would to that of any other State, provided that the rate regulation by that State agency was effective; and I think the tendency will be to increase the powers given to these State boards.

Mr. STOUT. What if the rate regulatory board was not effective, what can the Government do?

Mr. SMITH. Of course, as the bill now stands, it means that there will not be, under this supposed law, any water-power development on the public lands. I think, as has been suggested, that there should be development, but with Federal supervision.

Mr. STOUT. Who is going to determine whether the State board is effective or not effective?

Mr. SMITH. I think in most cases there will not be much of a debatable question about that.

Mr. THOMSON. As the bill now stands, as I understand that question, that does not enter in the case; if the State has a commission, then the Federal Government does not attempt to regulate. If they do not have a commission, as you say, there is no development.

Mr. GRAHAM. If they have such commission, the bill presumes it will be effective?

Mr. THOMSON. Yes.

Mr. SMITH. Of course, aside from whether the commission is effective, is the proposition whether it has legal power, and here is the case which I just cited, where the attempt is to put the Idaho commission out of business, because it is trying to regulate service. Some of the commissions have the power, also, to put a physical valuation on property, and to take that into account in fixing rates. and that may be in a way sufficient. I think it is safer, however, for the State regulatory agency to go into the matter of high finance and see whether the rate is based upon securities that represent something, or whether it is to be based on a fair return on a lot of unfair securities. The New York commission, so far as it is able, is taking such matters under consideration.

Mr. SINNOTT. I wish to direct your attention to section 3, a matter that is just a little obscure in my mind. Under section 3 we will assume a lease granted for power site in the State of Oregon, for the transmission of power throughout the State of Oregon, and also to the State of Washington. Now, would the Utilities Commission of the State of Washington regulate the charges of the State of Oregon. and would the Secretary regulate the charges in the State of Washington?

Mr. SMITH. Will you allow me to change that so it will agree a little more with some of the facts?

Mr. SINNOTT. Yes.

Mr. SMITH. Isn't it a fact that there is power developed in the State of Washington for sale in the State of Oregon simply because

the State commission of Oregon is more effective than the State commission of Washington? They think they can get by with certain things if they develop in Washington that they could not get by with if they developed in Oregon, and there, I think, is a splendid example of where it would be to the interest of Oregon consumers to be protected by the Federal power.

Mr. STOUT. I do not yet see how, under this bill, if the State of Washington has a utilities board, the Federal Government can do any more toward protecting them; would it be by providing an embargo against the granting of leases for water power developed in that State?

Mr. SMITH. Not so much an embargo as simply refusing the development of water power on public lands of Washington, except under a contractual relation that would effectively protect the consumer in Oregon.

Mr. STOUT. Right there seems to me to be a possibility of conflict as to what the people of Oregon considered protection and what the administrative officers back here considered to be proper protection.

Mr. SMITH. Mr. Stout, I do not anticipate the least bit of conflict between the State commission of Oregon or Washington or any other State and the Federal agency in the fixing of rates. I do anticipate, however, that the private corporation will try to get under the jurisdiction of the easiest commission.

Mr. FERGUSSON. I understand Mr. Stout to be asking the question if there should be conflict.

Mr. SMITH. That is a somewhat uncertain proposition, but there is one thing that I believe is right before us, namely, the conflict between the power of the corporate interests that want to develop water power for their own gain primarily, and the power of Congress, which wishes to enact legislation that will promote water-power development for the public gain primarily.

Mr. FERGUSSON. Who is to decide that question, the States or the Federal Government?

Mr. SMITH. I think they will join in deciding it.

Mr. FERGUSSON. In case they do not, then what?

Mr. SMITH. I think the tendency is toward—wherever there is anything in the question in the slightest degree interstate, both in the Interstate Commerce Commission and in the courts—toward letting the decision rest with the larger unit, namely, the Federal Government. But, as I stated yesterday, it is not for a geologist to decide that question when it is before the court, as I understand it is, in one of the railroad rate cases.

Mr. STOUT. It seems to me, Doctor, that there would be this danger: That we might have some arbitrary authority back here take a notion that they did not like the State railway commission or utility commission; that they were not doing the work right up to the handle, and for that reason leases might be refused.

Mr. SMITH. I do not anticipate that trouble.

Mr. STOUT. I do not, either; but it is a possibility.

Mr. SMITH. I think that the practical case would be, where the people of this State or that State do not like what their State commissioners are doing, they would appeal to the Federal Government for protection. I think that might be the possible procedure, but I do not anticipate that kind of procedure as originating in Washing-

ton. Most of the calls for help from the Federal Government do not originate in Washington.

Mr. GRAHAM. Does not the question raised by Mr. Stout and Mr. Sinnott hold, under the head of "Interstate commerce," where the plant is in one State and the transmission lines extend into another?

Mr. SMITH. I think, in the case that Mr. Sinnott raised, it was; in the case of Mr. Stout I think that is an intrastate question, pure and simple.

Mr. SINNOTT. I was trying to get at the intent of the bill. In the case cited of the Washington corporation, when it took its power from the State of Washington, it would be regulated by the Secretary. When the power remained in the State of Washington, it would be regulated by their utilities commission.

Mr. SMITH. Provided it was effective regulation, recognized as such by the people generally.

Mr. SINNOTT. You speak of conflict; there was a threatened conflict out there, but I really do not know what became of it. There was a movement on foot in the legislature in the State of Washington to prohibit the transmission of power from the State of Washington into the State of Oregon.

Mr. SMITH. Of course there are several instances, I believe, where the prohibition of export of electric power has been considered by State legislatures. I can not at this moment state just what the results of such efforts have been.

Mr. JOHNSON. You spoke of where a State commission was not efficient that that probably would be corrected by Federal authority. Don't you think that the State itself would be the proper forum in which to correct any dissatisfaction with its own board?

Mr. SMITH. Without mentioning individual States, I think that it is a fact that section 9, which prohibits development of power on the public lands of any State without a commission, was written in or suggested for insertion in this bill by the representatives of States where they were not satisfied with their public-utilities commissions. It was not written into this bill by any bureau representatives from Washington wishing to obtain jurisdiction. I think that is the practical answer to that question.

Mr. JOHNSON. I understood the intent of section 9 was to provide for regulation where the State had no board at all, and to remain under Federal control until the States provide control.

Mr. SMITH. As it stands it is that—

> No lease or disposition of lands shall be made under this act in any State wherein such authority has not been provided by law.

As I say, that suggestion did not originate in the department. That is a suggestion from people outside of Washington.

Mr. JOHNSON. Is it your thought, then, Doctor, that in such States as may have no public-utilities commission there should be no power development at all?

Mr. SMITH. I think the suggestion that has been made providing for development under a Federal——

Mr. JOHNSON (interposing). That is what I said.

Mr. SMITH. That is not yet in the bill, but I think it should be.

Mr. JOHNSON. You think it should be?

Mr. SMITH. That is my personal notion.

Mr. JOHNSON. I quite agree with you in that. As to joint control or concurrent jurisdiction, how would you provide for this kind of a contingency, which exists in many States where there are private plants owned entirely by private individuals on private property, and then others, again, which are on the public domain, owned by private parties and utilizing a portion of the public domain for their operations? Don't you think that the State utilities commission would be better enabled to deal with all of those than the Federal Government would be?

Mr. SMITH. On the ground that those are the only ones that the Federal Government could have any jurisdiction over?

Mr. JOHNSON. Yes; and here would be two cases. One set of facts would be where the company was located entirely on private property and over which the Federal Government would have no control, where they were not interested, but a public utilities commission of the State would have control of that and the other also.

Mr. SMITH. I have simply to repeat that I feel in this case, especially if we recognize, as we ought to, the advantages of large unit operations, realizing the fact that it is a natural monopoly; that we are having on the one side very large and powerful corporations in the business; they should be not only allowed in the business, but should be in many cases encouraged to enter the business. That is the situation on one side. Now, to effectively regulate, we need to have just as many regulative agencies, municipal and State and Federal, as can be used, and I do not believe that it is any advantage to the people to surrender the least part of jurisdiction on the part of any of the people's agencies.

Mr. JOHNSON. Perhaps I did not make myself clear?

Mr. SMITH. I think I understand you, Mr. Johnson.

Mr. JOHNSON. Of course, you realize in the one class of cases the Federal Government should not be known at all?

Mr. SMITH. Not at all.

Mr. JOHNSON. Then there would be another class of cases in which you think it might be known, or should be known?

Mr. SMITH. Yes, sir.

Mr. THOMSON. Might I ask a question right there? In the class of cases where the company is using some public lands—and they are under the bill—if there was a public utilities commission operating in the States, that public utilities commission would control it?

Mr. JOHNSON. Sure.

Mr. THOMSON. And if there was not a public utilities commission in the State, if the amendment suggested is put in, the Government would control?

Mr. JOHNSON. I quite agree with that.

Mr. THOMSON. That should be a condition. Let us assume there is no public utilities commission in the State. Then this would be true of the plant located entirely on private property within the State and doing business wholly within the State, there would be no control?

Mr. JOHNSON. There is a control in this way, Mr. Thomson: They usually supply their power to local communities which are incorporated, and in their charter they have the power to control the electric lights. I think in my county we have seven incorporated cities.

Mr. THOMSON. Then there would be what you call local control?

Mr. JOHNSON. Local control; that is, a right to control the price at which it shall be sold and the rates.

Mr. SINNOTT. There is always an inherent power in the courts to control.

Mr. JOHNSON. You fear no conflict of authority then in the method you have suggested between the Federal and the State authority in this control?

Mr. SMITH. I do not fear that conflict, but I suspect that there might be others, not referring to members of the committee, who fear, or raise the cry of fear of that because they think that the Federal control may be an effective control where other control might break down. And why is it not wise to provide two methods of protection for the public as a matter of safety? The engineers introduce into their engineering work a factor of safety, and I think the more factors of safety we introduce in the legislation which is for the public welfare the better.

Mr. SINNOTT. Give them both barrels?

Mr. SMITH. Give them both barrels.

Mr. THOMSON. There could not be a situation where you would give them both barrels at the same time?

Mr. SMITH. Not at all; I think it is wise to hold your fire until you need the second barrel.

Mr. THOMSON. In other words, there would not be a situation where a State utilities commission would be in control and at the same time the Federal regulations would be operating?

Mr. SMITH. Using your own figure, Mr. Thomson, if you have had the experience of firing both barrels at once, you feel it in your shoulder, and you are not sure of hitting the mark. But I never heard of anybody failing to hit the mark simply because they had another barrel in reserve.

Mr. THOMSON. Certainly; but what I want to bring out is this: There will not be a situation where, under the bill, as I understand it, and with such an amendment as has been suggested, both a State utilities commission and the Federal authorities would have jurisdiction; it would be either one or the other.

Mr. SMITH. I believe it would be either one or the other.

Mr. JOHNSON. Then I misunderstood; I understood you to say there was to be concurrent jurisdiction.

Mr. SMITH. I think there should be nothing in this bill that would waive any authority in any case where the Federal Government might retain that authority.

Mr. JOHNSON. Do you mean to say both the State and the Federal Government should have concurrent control and jurisdiction over the same subject matter?

Mr. SMITH. I think wherever, by reason of the use of Federal lands, the Federal Government should write into a contract by a developing company the fact that they must come under control.

Mr. JOHNSON. That does not meet my question.

Mr. THOMSON. I do not understand, Mr. Johnson, what you mean by concurrent jurisdiction operating at the same time.

Mr. SMITH. I do not think there should be two controls operating at the same time.

Mr. JOHNSON. Do you think there should be authority for the exercise of two controls at the same time in case one or the other is necessary?

Mr. SMITH. I think the authority should be reserved. I do not think any authority which the Federal Government now possesses should be written out of this bill.

Mr. JOHNSON. By reserving authority, you mean, as I understand it, in case the State authority should cease to exist, then it should be possible to bring the Federal authority into operation?

Mr. SMITH. Yes.

Mr. TAYLOR. If the State authority did not act, the Federal authority probably ought to, but where the State authority does act, then ought we to let the Federal authority supersede it?

Mr. SMITH. I think the actual case, Mr. Taylor, would be that the Federal authority, as I stated a moment ago, would be requested to step in and give strength to the arm of the State.

Mr. TAYLOR. I would not have any objection whatever to the Federal Government having the power to come in, but my observation is that the Federal authority will come in without being requested, and that they will run it, and that the State will be a figurehead.

Mr. GRAHAM. From whom would the request come?

Mr. TAYLOR. From the governor of the State, or if he does not act, I think the Federal Government ought to come in, and if they do not have any commission they ought to come in. But I do not want to have the Government arbitrarily send some people out there to supersede the local authorities entirely and take jurisdiction.

Mr. GRAHAM. I do not think any of us would want to stand for that.

Mr. TAYLOR. That is just what will happen.

Mr. THOMSON. The bill does not provide that now, Mr. Taylor.

The CHAIRMAN. I am wondering if we ought to try to make an expert witness on geology answer legal questions.

Mr. THOMSON. I have been wondering whether Dr. Smith was an expert legal authority.

The CHAIRMAN. Dr. Smith does not pretend to be a lawyer, nor to settle these fine distinctions.

Mr. GRAHAM. The Doctor discloses a great deal of legal knowledge.

Mr. SMITH. That comes from association.

Mr. TAYLOR. I think he is expert on bureaucratic control.

Mr. SMITH. I admit some connection with one bureau.

The CHAIRMAN. The matters which have been asked about by Mr. Johnson, Mr. Sinnott, Mr. Thomson, and others are intensely important. But Mr. Finney is a lawyer, and is pretty well loaded up on these questions, and I rather think we had better develop those particular points with him. Would not the committee think that advisable? Dr. Smith has not made a study of that, and ought not to be embarrassed by asking such matters from him.

Mr. SMITH. The third point that I wished to make is one bearing upon the matter of conditions of "recapture," as it has been termed. I will not use that term, because I am afraid it may be offensive to some people. It implies a certain amount of wildness and of power

on the part of that which is to be taken over by the Government, acting for the people; and I think "taking over" is the proposition we want to consider.

Mr. TAYLOR. Wouldn't "benevolent despotism" be better?

Mr. SINNOTT. "Reversion" would be more appropriate.

Mr. SMITH. It would not be exactly reversion, because some of it never belonged to the Government. I think the question of taking over the going concern with all of its physical property is a very important matter. Indeed, I regard that part of the bill as probably the most important. It is not how much the Federal Government will secure through its lease of water-power privileges in the next year or 10 years from now; it is where are we going to be at the end of a certain time which is set forth in this bill as 50 years.

Mr. TAYLOR. Has Mr. Sinnott or anyone else had you bring out how far you would go, for instance, in taking over or consuming, or whatever it is called, the power plants? For instance, in the city of Denver, you know they have steam plants and one thing and another there, and they rent some power from the Central Colorado Power Co. that has a plant in my home town. They transport it by a transmission line 200 miles over the Rocky Mountains to Denver. Now, take the concerns that lease some of the power from this Central Colorado Power Co., which has a dam on the Grand River in my home town, in 50 years from now is the Federal Government going to confiscate all those plants in Denver, or Boulder, 300 miles away, that rent some power from the Central Colorado Power Co. in Colorado Springs?

Mr. SMITH. I think "confiscated" would be the term to apply to a proposition like that. I do not believe that is included in the idea of taking over hydroelectric plants.

Mr. TAYLOR. If you take over all, the question is, where is the line? I can see that a little dinky concern may organize a dam company and have all of their development in a subsidiary company, which, in a way, would be a subterfuge, you might say, and the Government ought, probably, to take them in. But somebody honestly leasing some power from a generating company, ought they to come in and be grabbed by the Government of the United States 50 years from now? And, if not, where is the twilight zone? There is a gap you can drive a 10-horse team through between where the plant is itself a legitimate entity, branching out, and where it is leasing to some other concerns that may be connected with it in a back-door line.

How are you going to tell? Have you answered those questions to Mr. Sinnott?

Mr. SMITH. No; I have not. I have just come to the proposition of taking over, but I won't reach the proposition you suggest of taking over a customer. Sometimes we will take over an operator, but never his customers.

Mr. TAYLOR. Where are you going to draw the line between the customer and the plant?

Mr. SMITH. I think it will be purely a question of fact that will be easily determined at such a time.

I grant that at the present time the way certain companies are financed and certain companies are operated, with only one purpose,

namely, that of evading and keeping outside of the jurisdiction of the public-utilities commissions, I grant it is very hard to know just where the one thing starts and the other thing begins.

Let me cite you to just one case up at Niagara—not the corporation I referred to in the decision I quoted, but another company up there. We find one company owning the water wheel and another company, not presumably, but for the purpose of evading public control, apparently an independent company that owns the generator; and the public-service commission can not reach and make effective rate regulation, for the reason they can not reach the company that owns the water wheel. The reason is it is not a hydroelectric company, but just simply a company owing the water power, and one that has nothing to do with the generation of electricity, but just simply the mechanical power for making a shaft go around. At the other end of the shaft it is true there is a generator, but that belongs to an independent corporation, which has an operating contract with the company owning the water wheel.

Mr. TAYLOR. What I wanted to ask is this: Supposing, now, a company gets a lease from the Government for a power plant and builds a plant. No other company that is short of power or short of lights or anything of that kind, will dare go and lease from the Government lessee for fear of being confiscated, will they?

Mr. SMITH. I think they will. I think that is only a question of fact, whether they are a bona fide consumer, buying and consuming under a contract, or whether they are a subsidiary company, the operation of which is essential to and a part of the operation of the company holding the lease. I do not think we will ever have any trouble with that situation.

But I do think we have got to see that every company, from the one that uses the falling water to the company that is selling to the municipality or selling to a private or corporate consumer, that every one of those comes under the public-utility commission of the State.

Mr. TAYLOR. I was just wondering whether or not, not in the way of criticism but as an inquiry, the provisions of this bill guard against and protect the interests of an innocent third party who has nothing to do with Uncle Sam, simply because he deals with the Federal lessee.

Mr. SMITH. I think it should, and I think the bill does protect him, and that whatever contracts he has made in good faith will be carried out by the subsequent lessee, or by whatever governmental agency may continue to operate the plant at the end of 50 years.

Mr. SINNOTT. Mr. Taylor, if you notice section 5, the Government would have the right to take over any property depending entirely or in part for its usefulness on the continuance of the lease. The question would come up whether it was in whole or in part dependent.

Mr. THOMSON. If this company is a distributor it would come under the provisions of the bill, would it not, and would be included with the parent plant. It it is not a distributor to the consumer, it would not.

Mr. TAYLOR. Take, for instance, a plant in Denver. There are plants over there that get power from several different sources to furnish light to the people. If they rent their power from this Gov-

ernment plant, you see, to that extent they are dependent on it. And should the other plant be confiscated by the Government——

Mr. SMITH. I do not like that word "confiscated."

Mr. TAYLOR. When you grab up these plants for nothing, what else is it?

Mr. SINNOTT. There is a word "commandiering" here that was used in the Boer War.

Mr. SMITH. Regarding setting forth these conditions——

Mr. TAYLOR. Did you notice Mr. Sinnott's suggestion that where these other companies are dependent in whole or in part? For instance, the city of Denver, as I have said to Mr. Thomson—while I am glad to say it has a light and power plant of its own—depends on four or five different sources for its supply. It rents some, and if it uses power from a Government plant, would that make it subject to grabbing?

The CHAIRMAN. Clearly not, Mr. Taylor.

Mr. TAYLOR. It does not say so. It says if dependent in whole or in part.

Mr. SMITH. "On the continuance of the lease herein provided for."

The CHAIRMAN. The objection you are making here could be made against most any street car franchise in any city. But it can not be assumed that because a street car franchise is for 30 years, that at the end of the period the tracks would be torn up and thrown out in the yard and the cars chopped up. But this bill goes beyond that. Take section 3, page 3: If Mr. Taylor was the power company and had a 50-year lease with the Government, as contemplated by this act, and the city of Denver, we will say, desiring to have a bond issue, voted a 60-year franchise, section 3 of this bill permits the city of Denver to come to the Interior Department and secure not only a 50-year contract, but it may have their contract approved even beyond the life of the lease. So, there is no twilight zone.

Mr. TAYLOR. I do not think I make myself clear. Supposing I am a power company, and supposing Denver has a site of its own or has several of them we will say, but it does not have enough power, and they want to lease some from me, and maybe lease from half a dozen others, and from the Government plant. It will be dependent in part on us. Will that subject it——

The CHAIRMAN. Oh, no.

Mr. THOMSON. Wait a minute. Dr. Smith stated the language just a moment ago. "Dependent, in whole or in part, for their usefulness on the continuance of the lease." The Government might terminate and take over the plant at the end of the 50 years and lease to somebody else, and the contract the city of Denver might have would go right on. It is not dependent on the continuance of the lease.

Mr. TAYLOR. It is dependent on the continuance of the power furnished. Would not that be the same thing?

Mr. THOMSON. Oh, no.

Mr. TAYLOR. You do not think that these other independent plants, because they rent from the Government lessee—you do not mean to subject their property to the provisions of taking over?

Mr. SMITH. Oh, no. In the bill it is "dependent on the continuance of the lease." That does not mean dependent on the operation of that particular plant.

The CHAIRMAN. The plant will be run by somebody just as the street cars will be run by somebody.

Mr. THOMSON. Denver might have to get some plant that will give the power, but that is not dependent on the continuance of this lease.

Mr. TAYLOR. The question is whether we have sufficiently defined what the Government will take over.

Mr. SMITH. The reason I have considered this matter of fixing conditions under which the property is to be taken over by the Federal Government, the reason I believe that is the most critical part of the whole bill, is that we are trying to legislate, as I understand, in the interest of the power consumer 50 years from now.

Now, it may be that this legislation looks forward, possibly, to public operation at that time—and, by "public" I mean not necessarily Federal and not necessarily State, but possibly municipal, more probably municipal—it may mean we are simply looking forward to public ownership, but I think it is sure that we want to look forward to absolute public control of so essential a factor in the industrial life as hydroelectric power.

Some of the witnesses brought up constitutional questions in connection with this taking over proposition. It is needless for me, and, I believe, for anybody else, to consider the constitutionality of the terms of such a contract; and there is no use in our mentioning it as a confiscation of private property. There is a debatable point, and that is whether this, that, and the other element is private property. But I believe that the New York commission has set forth very strongly the fact that the existence of the opportunity for developing hydroelectric power, which is cheaper, more or less, than some other power, is a natural resource, and it belongs to the people of that particular locality and should be used to their benefit.

And so we come right down to the proposition whether the increase in the land values no matter how those lands concerned may have been acquired by the corporation developing this water power—the question is whether that increase of land values is a matter of public property or of private property.

Mr. TAYLOR. Isn't it largely the increase made by the energy and activity of the people who put up the money and establish the plant? Ought not they to have some per cent of the increase, rather than the Government take it all? I do not believe they ought to have all of it, myself; but ought not they to have some, to induce capital to go into it?

Mr. SMITH. I think they should receive some large return all through the period of the lease for their enterprise, for their skill, and for the faith they have shown by putting in the money.

Mr. TAYLOR. Supposing the property is enhanced by virtue of the work, energy, and investment, and supposing it is enhanced ten thousandfold over and above what the cost of the original plant was, ought not they to have a portion of that rather than the Government taking all; that is, to induce development and to induce capital to come in?

Mr. SMITH. I think that increment will be almost wholly by reason of the natural site and by reason of the population that has grown up around that power development. And I believe that there is no question at all in my mind that that increase in value belongs to the community at large out in Colorado, for instance,

rather than to the group of stockholders in New York or in New England or Pennsylvania. I believe here is a case where the value has been in largest measure earned by the existence of the community right there. I recognize some force in this argument as used by the governor of Colorado when he appeared before this committee. I think that an enterprise which has shown its faith by thus developing the power should be receiving its wage during the term of the lease, and that that increment should not be allowed to accumulate. Because when it has accumulated, as it would, under the amendment suggested to this committee, if you put a fair value in place of actual cost, it is a burden that has to be saddled upon the people of the local community 50 years from now; and that means, in some cases, that it will be a prohibitive price. It will mean that the municipality, or the State body, which is to take over and control its own power development, will not be in a position to even float the bonds to take it over.

And, right there, let me touch upon one thing that will not be brought out in any table, in answer to your question regarding stock ownership and interlocking directorates of some of these power corporations. They are powerful to-day; they deserve to be called "power corporations" in a double sense. One thing won't be shown, because it is one of those intangible things we know about, but is not expressed in any of the corporation manuals or journals, and that is the difficulty a municipality may have in coming East and finding money with which to take over a power-development plant; or, as the case may be, to construct a power-development plant for its own use. The financial interests, in many cases, will just simply block them as they go about trying to sell the bonds at this place or the bonds at that place. The money market is not an open market even to a large city that is going to develop a water power. Now, I can not prove that; I simply know it from one representative of a western municipality who was blocked when he tried to sell the municipal bonds for this very purpose of power development. There is that influence, and I think we must keep our eyes open to this proposition, that there is a community of interest, a gentleman's agreement in some cases, that this area belongs to this interest, and that area belongs to that interest, and whoever tries to encroach upon—not this Federal reserve, or this State reserve—this reserve belonging to this group of capitalists, or that preserve belonging to that group of capitalists, does it at his own peril. And the fact is he does not do it, because he can not get the money with which to construct.

NOTE.—The following clipping from the Washington Herald of May 26, 1914, illustrates the point made above:

By a vote of 56,199 against 23,179, or about 3,300 in excess of the required two-thirds majority, citizens of Los Angeles, Cal., voted to issue $6,500,000 bonds to be issued in constructing a hydroelectric power plant and transmission system which will generate electricity from water obtained from the city's water-supply system.

In a convincing report, E. W. Rollins, member of the bond house of E. H. Rollins & Co., who have financed large amounts of Los Angeles's municipal securities, and who also were asked to finance this new issue, denounced the proposed plans as part of "a policy of extravagance."

Mr. Rollins said: "In order to put this municipal system in operation you would have to destroy in a large measure investments made by the very people

to whom we would have to offer your bonds for sale. In other words, you would be asking the bond houses to go before the investor for money with which to destroy investments which had previously been made in good faith. Construction of the plant, which will involve at least $20,000,000, would entirely exhaust your debt limit and leave nothing for the actual needs of your city. Our own firm has had great faith in your municipal bonds and has bought them freely, and we would like to see the affairs of your city so conducted as to keep your credit sound and leave sufficient money for necessary future improvements.

Now, I do not like to believe all these things, but the more I come in touch with the power situation to-day the more I believe that is the actual condition. And I get my testimony not from men who are knocking this proposition or that proposition, but from men who come before the department and want to develop this power or that power and want to get a permit on this or that—the engineers, you might say, and the promoters.

That is the situation we must face, and to me it simply means that the issue is clearly drawn between the public, which must be protected for the future, and the larger corporate interests that are already intrenched, and, from their standpoint, are very properly protecting their reserves.

The CHAIRMAN. May I just interrupt you for a moment to put a concrete case I have in mind—not a concrete case, but a supposed concrete case? In trying to get at this unearned increment business, and who it really belongs to and where it ought to go, still having in mind, of course, the proposition we have to have a bill that will be workable: Supposing in a little Colorado city (we will take one from my friend Taylor's State)——

Mr. SMITH. They have some power there.

The CHAIRMAN. Yes; so it won't be entirely foreign. Suppose they have a little city there of a few thousand inhabitants, just a little country town, and suppose we execute a lease here to a power company to construct a small plant. We execute the lease for 50 years. Industrious, energetic, patriotic men take hold of the power plant, develop it, work it out, and carry it along. The town people have worked and struggled and strived and built up the town. They open mines and discover oil and minerals of all kinds, as so many cities do in that neighborhood, and cause that city to grow up to a large city and cause the power plant to grow up to a large plant. Now, we will say at the end of the 50-year period that city wanted to have municipally owned electric lights, and needed the power for that purpose. Then, is it not clear in the minds of the committee, and is it not clear in your mind, Mr. Smith, that the power company, however patriotic and industrious they have been, should not have the entire growth which was brought about not alone by their investment, not alone by their enterprise and skill, but by the combined development of the company, the combined development of the mineral resources, and the combined efforts of those people? And when the end of that period comes, from necessity there must be the public standing on the one hand and the interests of the power company standing on the other hand. Now, to take the public interests' side of it and say we will give them everything, that might be so drastic that you will never get the power developed. There is the danger line. On the other hand, who is here who will say they will take away the possibility of the city owning a municipal light plant whereby they can get the power at a flat rate of 50 cents a month,

whereas they are now paying $5 and $6 a month, and keep the plant up to such a price that the city can not take it over?

You have to choose between those two, and to either fight the battles of the power company on the one side or to fight the battles of the city on the other. There are only two sides to it, and you have to fight on either one or the other side.

Now, having in mind all the time we have to pass a bill here that will induce and allow the power people to go out there and develop the power, so far as I am concerned, I want to go just as far on the people's side as I can and preserve every line in this bill in favor of the public interests of the people that you can, so far as I can, and then the people will go ahead and work.

I can well recognize Mr. Taylor's position, and I can well recognize Mr. Johnson's position, and the other people from the States that have power possibilities. Interest rates are sky high. They want money to come out there and develop those things, and anything which will interfere with that, or anybody who will offer a suggestion which would interfere with that, they look upon almost as a traitor. But 50 years will bring about a state of facts where you will be forced to take the side of the power companies, or you will be forced to take the side of the people; either one of the two. No man could live in a community at the end of 50 years who took the wrong side of that proposition, and we ought not to take the wrong side of it now.

I do not know how far we can go in the direction of this bill and still get that State opened up out there, but I am in favor of doing that, and it is along that line this proposition troubles me.

Mr. SMITH. I believe with you on the question of whether fair values should be substituted for actual cost; I believe the question comes right down, as the chairman suggested, to whether the stockholders of a power-development company, who have been running for 50 years, shall secure the benefit of that increase in land values, or whether the community at large should secure it. I believe that the tendency, the tendency of public opinion at the present time, is toward the latter, to let the community reap the benefits in that in the creation of which they have been so large a factor. I think in any legislation at this time we should face forward and not backward. So that it means simply that we will give an opportunity for the citizens of 50 years hence to decide whether they will take over the plant at what I believe will be a fair value, if they pay simply the actual cost on the lands, and it will be not only equitable, but it will not be prohibitive, as I suggested a while ago, it might be if it was put on the basis of what its fair value was at that particular time.

To continue about that proposal to cut out the words at the end of section 5, "or any other intangible element," the bill already says a fair valuation shall not include or be affected by the value of the franchise or good will, which is important, as I notice in reading some of those cases before the New York commission again, that it is still the common thing for the corporations to try to capitalize the franchises.

That is very well set forth in the case of the Mayor *v.* Buffalo General Electric Co., and I think the chairman of the commission.

in his opinion, well states it when he says that the company received this privilege as a gift of the city of Buffalo, so that:

> The whole truth lies in one sentence: If the franchise, which was a gift from the public to the company, should be made the basis of a money return, the practical result would be that the public would have to pay money to the company because it had given the company the right to occupy the public streets with its plant. This is the whole of the matter, and when thus stated there is but little more to be said.

And when it comes to the term "intangible," there is a pretty fine illustration of what might be called an intangible element. The company went went so far as to set up, as an element in the capitalization on which they should receive a fair return, a contract with the company from which they obtained power. The contract, which was dated July 1, 1908, the contract which the Buffalo General Electric Co. considered so valuable to the company, that they should be allowed to capitalize it and receive an income on that from the consuming public, as a matter of fact, when the commission called for the contract, they found it was not even signed by the contracting parties. Now, if there is any better illustration of an intangible element in the capitalization of a company, I hardly know what it is. Of course, while the proceedings continued, the parties got together and signed the contract of some three years earlier.

And I think the committee will do well to consider carefully the advisability of retaining in the bill every such word or phrase as this prohibition of capitalization of intangible elements.

The CHAIRMAN. Right on that point: Mr. Pierce has just suggested to me that his thought was, in striking out, on page 4, lines 11 and 12, "or any other intangible element," that with that in the bill it would make it impossible to have a reimbursement at the end of the term for engineering items, which oftentimes reach into proportions.

What is your thought on that?

Mr. SMITH. Why, it seems to me that engineering expenses are necessarily an element in first cost of a power-development plant. I think there are a certain amount of promotion charges, expenses, which are an element in the cost of the development. Simply because it is brains that you are buying you can not refuse to put a valuation on those. But when it comes, as I think it does in some of the cost sheets that are set up by these companies up at Buffalo, to figuring a promotion charge on such things as arc lamps, in which case the percentage is not on the original cost of such a tangible thing as the electric lamp, but it is placed upon every percentage that has previously been added to that first cost, that is a kind of high finance that I had never dreamed of; but I find it exists by the cost sheets that are set up by some of these going concerns that appear before a commission which, apparently, is very effectively regulating, so far as its jurisdiction permits, matters in New York State.

The CHAIRMAN. Let me interrupt you long enough to know if bona fide engineering charges, plats, charts, figures, data, etc., that would be made a bona fide and rigid expense incurred in that way—would that clearly come in as intangible?

Mr. SMITH. I do not consider it intangible.

The CHAIRMAN. I do not know; I am just simply asking for information.

Mr. SMITH. If there was any doubt about that proposition——

The CHAIRMAN. Mr. Pierce's thought is there is doubt about it, because he thinks if that remains in nothing could be charged for engineering expenses which, as we have been told by Mr. Finney and others, sometimes reach unusual proportions.

Mr. SMITH. Not unusual proportions, if you will allow the suggestion, but unusual amounts. I believe when anybody says $1,000,000 to you and me he is talking in terms it is difficult for us to understand. If Mr. Finney had said $4 a horsepower, why, any of us could have grasped the proposition and could have seen that that expenditure was not such a great expenditure, after all.

The CHAIRMAN. Is that what it did amount to, as a matter of fact?

Mr. SMITH. As I understood, it was $1,000,000 for 250,000 horsepower, which, as I figure it, is $4 a horsepower.

The CHAIRMAN. Coupled with a plant of that size, then, it does not seem so exorbitant?

Mr. SMITH. Why, no; but I think any commission fixing rates or putting a physical valuation on a plant would take into account the matter of engineering costs.

Mr. TAYLOR. Let me ask you, if it will not interrupt: Have you commented upon the advisibility of an express provision in here authorizing the present temporary permittee to come in under this bill?

Mr. SMITH. I take it they could come in.

Mr. TAYLOR. Is it in the bill now?

Mr. SMITH. I do not understand it is specifically in there.

Mr. TAYLOR. Ought not it be in there so there would be no question about it?

Mr. SMITH. Of course, in conformity with the principles of the bill, I think it would be provided for.

Now, on this matter of taking over the property, I think some ghost was raised in the matter of competition on the side of Canada that what may cost something here could be obtained rather freely on the other side of the line.

Mr. GRAHAM. Mr. Chairman, pardon the interruption here. Are you going to leave the actual cost of taking over now, Doctor?

Mr. SMITH. This has to do with that matter of taking over, and I will just simply refer to the fact that the regulations, which, as it happens, in Canada, take the place of law, provide that at the end of the expiration of the lease, which is for a shorter time, too, than 50 years, where the Government wishes to take over buildings or structures of such a permanent character, which are necessary and useful for the proper development and utilization of the water privilege, the lieutenant governor, acting "in council," determines the compensation.

It does not say their actual cost or fair value, but simply such sum or sums as he may deem proper.

Mr. GRAHAM. What is that "council"? Who does that include with the lieutenant governor?

Mr. SMITH. The lieutenant governor, I suppose—I can not answer that—but acting with his ministers. And it is taking over the plant at such price as he may deem proper, upon the sum being appropriated for the purpose by the legislative assembly of the Province.

Mr. RAKER. What is the last provision about the legislative assembly?

Mr. SMITH. Upon the sum being appropriated.

Mr. RAKER. That is, the money?

Mr. SMITH. Yes; by the legislative assembly.

Mr. RAKER. What has been the practice in Canada, relative to that provision?

Mr. SMITH. I do not believe they have reached it, because these regulations were only adopted in January, 1907.

Mr. GRAHAM. They are to be applied at the end of the lease, and the end has not yet come.

Mr. SMITH. This hydroelectric policy of Ontario has been prompted chiefly by the evidence connected with the development of Niagara Falls. They have learned the lesson. The provisions are very stringent, it seems to me, and from our point of view too stringent regulations.

Mr. RAKER. Have you put in the record all the information on the development in Canada under these rules and regulations?

Mr. SMITH. I have not. But these figures, three years after the inauguration of that policy, include two pages of water-power leases. And, as I say, this report is 1911, and there are probably now many others. It is simply interesting to show that the term is 10 and 20 years and that the rental goes from 25 to 50 and even 75 cents per horsepower. In one case there is a 12½ cent charge, but that was a town and not a corporation. It might just as well have been 1 cent.

Mr. TAYLOR. I think so, too.

Mr. SMITH. I think so.

Mr. GRAHAM. Does the charge vary with the time? For instance, is it more as the lease gets older?

Mr. SMITH. They only have a minimum rental for the first and second years, I think, of 25 cents. They go up to 25, 50, or even 75 cents. Seventy-five cents was charged in one case. I simply make the point that the policy is established over there for the control of the water power, and that it is not a proposition of giving any corporation that comes free use.

Mr. GRAHAM. Doctor, I interrupted you awhile ago, and now I might as well give you the thought in my mind. With reference to the provisions in lines 23 and 24 and thereafter, on page 3, concerning the taking back at actual cost, is it not practicable, and would it not be wise, to put in the bill some provision for ascertaining what these things are at the beginning rather than at the end of the lease?

Mr. SMITH. I think that would be a wise provision. Possibly the actual cost might be determined, but there are cases, of course, where it may be difficult even at the beginning to determine what the actual cost is and to assure the Government that there has not been a certain amount of fictitious transactions for the purpose of divying up the margin between actual present worth and the price that is to appear on the books of the company?

Mr. GRAHAM. If it is difficult at the beginning, it would be very much more difficult at the end of the lease?

Mr. SMITH. Certainly. And, on that matter of accounts, I believe from what I have heard from engineers who have been in conference

with the different Secretaries of the Interior, that the tendency is very marked toward open accounts. The engineer who appeared before the department in asking for the Pend d' Oreille permit differed from those who conferred on that subject some years before with Secretary Fisher, by telling Secretary Lane "We need not discuss the matter of accounts; the books of the company will be open to the Government," and added that that went without saying. Now, I think that is the modern tendency in corporation affairs, and it is surely in the public interest. On the other hand, a few years ago, in the same room I heard representatives of large water-power interests saying that the Government, whether State or Federal, of course, had no right to examine into the private affairs of the corporation.

Mr. RAKER. Doctor, what was the term of the permit and the rate charged on the Saguenay plant on the Saguenay River?

Mr. SMITH. I do not know about the ownership of that Saguenay power. In looking this up the other day I got the impression from what little was in this report on the water powers of Canada referring to the Saguenay power that it was in private ownership and not under governmental control.

Mr. RAKER. Did not they get their lease or their right from the Government on public lands?

Mr. SMITH. Oh, in Canada, as in the United States, a great deal of land having valuable water-power privileges connected with it passed into private ownership years before the public realized the worth of these privileges.

Mr. TAYLOR. Dr. Smith, have you ever published any bulletin or statement showing the power possibilities of all these eastern streams?

Mr. SMITH. Why, in making a conservation report some years ago, Mr. Taylor, we made it for the eastern streams as well as the western streams.

Mr. TAYLOR. I was just wondering whether the Geological Survey had ever called the attention of the public to the possibilities and great opportunities that are back here in the East for power development.

Mr. SMITH. Oh, there is valuable power in the East as well as in the West——

Mr. TAYLOR. In these navigable streams, I mean.

Mr. SMITH (continuing). And there is power development that is being effected in the East as well as in the West. I would like to call the attention in that connection——

Mr. TAYLOR. Is the Government retaining a royalty on it?

Mr. SMITH. Why, I believe ex-Secretary Fisher called attention to the fact that the Government wanted to do some things like that on the navigable streams of the East, but that the legislation was blocked in Congress.

Mr. TAYLOR. Yes; I know, the dam in Alabama; that matter was brought out.

Mr. SMITH. And the Connecticut River bill was another piece of legislation that was blocked, having this same idea of public control that is contained, as I understand it, in this bill. Now, it has been stated before this committee that water-power development in the West has just simply been blocked in recent years; that since 1909, I believe the statement was, there has nothing happened in the West.

I obtained some advance figures from the Census Bureau on the matter of developed water power in the United States. Comparing the 1912 census with the 1907, and taking the increase in that 5-year period—which I think comes within the period we would all admit that is said to show the blight of inadequate legislation relating to the public lands—it is interesting, I believe, to see that the largest increase in horsepower development is in the State of California, where, in that 5-year period, 223,000 horsepower were developed.

Next comes New York, an eastern State, with 215,000 horsepower.

And, third, it is again a western State, Washington, which has 208,000.

These are three States that stand right out from all the other States.

Mr. TAYLOR. Those were practically all on private lands, were they not, and on large streams?

Mr. SMITH. Of course they were on private lands in the East, although by Federal permit, you might say, in the case of Niagara. But in the State of California, I think that Mr. Merrill's statement would bear me out that the large part of the development has been in reserved lands. It is noticeable that of the seven States showing over 50,000, three of them are public-land States. I think if you would like to have this statement it might go in the record, Mr. Chairman.

The CHAIRMAN. Without objection it will go in the record.

(The statement above referred to will be found as Exhibit P in the appendix.)

Mr. RAKER. May I ask the doctor a couple of questions, in order that he may furnish a statement and let it go in the record, and also Mr. Merrill?

The CHAIRMAN. Certainly.

Mr. RAKER. The first one is how many permits and the horsepower of each were granted to individuals, companies, or corporations already operating; that is, in all the public-land States?

The CHAIRMAN. For what period of time?

Mr. RAKER. Commencing with 1901.

The CHAIRMAN. When the act was pending?

Mr. RAKER. Now, the second question: How many final permits were granted to individuals, companies, or corporations theretofore in respect of previous permits?

The third: How many preliminary permits within the past six years have been granted upon which final permits have not been granted; also, under which there is not now any operating or active construction?

Fourth. How many in which there was no operation?

Fifth. How many on which there is still the construction?

Sixth. How many permits, and the horsepower of each, have been granted, which are final permits?

Seventh. State the horsepower of the final permits that have been granted in the past two years to corporations which have not heretofore received preliminary or final power permits other than those you have mentioned above.

Eighth. State the number and the horsepower of each of the preliminary permits and of the final permits which have been granted within the last two years to corporation which have not already been in receipt of final permits.

Ninth. State which of the permits, and the number of the horsepower thereof, were granted under the Act of 1901; and which of the permits, and the horsepower thereof, have been granted under the act of 1911 for transmission lines.

Tenth. State the number of projects, and the horsepower of each, for which final permits have been taken up by individuals, companies, or corporations under the act of 1901 in the past two years; and which individuals, companies, or corporations went, prior to granting of final or preliminary permits, into the hydroelectric business, as developers of power.

Now, that brings the history of this matter fully before the committee, and I know if the doctor and Mr. Merrill will furnish it, it will be of very great value to the committee.

Mr. SMITH. For the record, let me tell you there are about five men working to-day on the simple question Mr. Graham asked yesterday.

Mr. RAKER. Judge Graham always puts a question that has much meat in it.

Mr. MERRILL. I might add, Mr. Chairman, I have already that information in tabulated form, and it will merely need rearrangement.

Mr. SMITH. I think we can give the information, or the most of it. We will do our best, Judge.

(The data referred to will be found as Exhibit O in the appendix.)

As a general comment on the line of questions that have been submitted for answer in the record, I think the committee might be interested to know just what the status of water powers on the public domain is at the present time. We have in existence—this is largely outside of the forest reserves—415 power-site reserves which have been made under authority of the 1910 act by the President. This includes nearly 2,000,000 acres—1,976,837 acres, in 14 States and on 264 streams.

Mr. TAYLOR. Can you tell me how much of that is in Colorado?

Mr. SMITH. I can put it in. (NOTE.—270,350 acres.)

Mr. TAYLOR. I did not know but what you had it there.

Mr. SMITH. No; I can not give it to you now. I did not take it by States. The estimated capacity of the water power on the public domain, outside of the national forests, is 7,000,000 horsepower as a minimum, and 11,000,000 with storage; and I believe Mr. Merrill will introduce figures showing that the estimated capacity of the national forests is approximately 12,000,000. So you have under consideration matters that relate to at least 18,000,000 horsepower, of really valuable resources, that is now in the control of the people.

Mr. TAYLOR. Will it interrupt you to ask: Have you any statement there of the number of large withdrawals for possible reclamation projects? Have you any of those?

Mr. SMITH. Oh, no. That comes under the Reclamation Service.

Mr. TAYLOR. Withdrawals for that purpose?

Mr. SMITH. Yes.

Mr. TAYLOR. Do you happen to know how many reclamation sites they have withdrawn for possible future construction?

Mr. SMITH. No; I could not say. Of course, I could secure that and put it in the record.

Mr. TAYLOR. I do not know that that is necessary.

Mr. SMITH. It is outside of my province. I would say in these withdrawn areas we have made from time to time and are making more or less continuously every month some modifications, and that the land withdrawn from time to time has been reduced by restorations. We have restored over 350,000 acres simply for the reason that it was not essential water-power development; or, in some cases, after careful consideration, we have regarded it as an irrigation use.

Mr. TAYLOR. Have you not some sites—it may be perfectly wise; I am not intimating it is not—that have been withdrawn for power which, if carried out, would involve an enormous expenditure by the Government in condemnation or destruction of the property?

Mr. SMITH. By the corporation, in buying up flowage lands. Of course it is true, Mr. Taylor, that those reserves do not include all of the area that might be flowed, and the company developing such a site would have to secure the condemnation of the land that would be flowed.

Mr. TAYLOR. For instance, let me give you one concrete case: Take the Gore Canyon, of Colorado, in Grand County.

Mr. SMITH. Yes.

Mr. TAYLOR. Of course it involves a very large valley and it contemplates raising water about 80 feet above the cities of Kremmling and Troublesome, and other good-sized towns, and would also cover many thousand acres of land and the Moffet Railroad, which is supposed to be a transcontinental railroad, as well. Is not a project of that kind holding up developments which otherwise would be made and all that valley would be at once settled up if it is opened; but if it is held, would it not involve an expenditure that would be prohibitive, almost, to every utilizer? And have you many conditions of that kind?

Mr. SMITH. I do not think that we have many cases, if any, comparable to that. Let me go across the line into Wyoming, where a few months ago—and therefore it is in my mind at this moment—there was a valley of several thousand acres under withdrawal. It was a valley that gave a valuable opportunity for the storage and development of water power. Now, the proposition was put up of relative values——

Mr. TAYLOR. That is what I mean, relative values.

Mr. SMITH (continuing). And that land had a present value, rather valuable, too, for general farming.

Mr. TAYLOR. Were there any towns or good-sized cities in it?

Mr. SMITH. Oh, no; it was largely an unsettled region, but there were agricultural possibilities that were not conjectural but were actual for that valley, and there were several thousand acres of bottom lands involved. Our engineers sized up the present worth of that land for agricultural purposes and its future worth for power development. In this case the difference was clear enough for us to recommend to the President the restoration of that land to entry, for the reason that the present worth for agriculture exceeded the possible future worth for power; and that type of action expresses the policy of our department.

Mr. TAYLOR. Would not that be more so if not only thousands of acres of good agricultural land were involved but a city or at least a town of a thousand inhabitants and a railroad that is supposed to be a transcontinental line, and all of those improvements would necessarily be destroyed by the reservoir, if you ever built one. And ought not some of those that are now prohibited from settlement and development be investigated and opened up?

Mr. SMITH. These questions have to be considered each on its own merits, and we do not, of course, decide a Colorado case on any precedent decided in Wyoming.

Mr. TAYLOR. Of course not. I was just wondering what the policy was.

Mr. SMITH. I think the policy is well established to consider the relative worth of a site for the different uses. And if it is worth more for agriculture to-day, why turn it over for agricultural use.

Mr. RAKER. Right in that connection, Doctor, has your department made any investigation of what is known as the Pitt River project in northern California?

Mr. SMITH. I believe that is one of the places where we have had a withdrawal that is still in existence.

Mr. RAKER. Yes, since 1892. It covers three or four towns, a territory 35 by 30 square, and they have estimated the farming land now used at about 25,000,000, and we are trying to get the department—unfortunately I have never been to your department—to make an investigation.

Mr. SMITH. Of course, if that is since 1892, it is a reclamation project.

Mr. RAKER. It is a reclamation project, and they are holding it now for power, also. Would there be any chance for your department going into that and making an investigation? Do you have that right now?

Mr. SMITH. Oh, I think we have some facts on it. The Reclamation Service, the Forest Service, and the Geological Survey all work together on these propositions, and whatever facts are possessed by one are used by the others.

Mr. TAYLOR. Do you think it would be a good idea for the States through their legislatures, or the governor, to be consulted as to the relative value for the development of a community, allowing it to go into farms and to become settled now, or to hold it for future reclamation projects, of which there can not be any more built until those at present are completed, and that will take 10 years? And, on the question of relative importance, ought not the State, in some way, to be consulted on that, and are they not as much interested as the Government?

Mr. SMITH. Take the State of California; we are in active cooperation with different boards - the boards of water control, and the conservation commission of that State. We are in active cooperation. We receive records of water filings from them, and we turn over to them such information, and we are publishing engineering reports in cooperation. I think there is a case where the Federal Government and the State government are working hand in hand, and we are getting results. And any proposition that comes from the State government of course is given the largest consideration. The point is, Mr. Taylor, that the State organizations are not asking us to let up on any policies of the highest utilization of the lands in the States.

Mr. TAYLOR. Oh, no; of course not.

Mr. SMITH. The tendency is rather the other way.

Mr. TAYLOR. But I was thinking the State legislature would be more representative of the people than the conservation commission. The conservation commission in our State is a bunch of fadists.

Mr. SMITH. The State Conservation Commission of California and the State board of water control, whatever their exact title is—there are several boards there—I think represent the animus of the State legislature, at least.

Mr. TAYLOR. Oh, they are patriotic citizens enough, and good people.

Mr. SMITH. And they are given appropriations by the State legislatures.

Mr. CANTOR. Mr. Taylor is talking about unauthorized bodies, and you are talking about authorized bodies.

Mr. SMITH. I am talking about the State of California, and the State legislature appropriates very generously, I think, to these California organizations and asks the cooperation of the Federal bureaus, and we have expended many thousands of dollars with the State organizations in working out these various matters you refer to.

Mr. TAYLOR. If I produced a memorial from the legislature of our State, asking that a certain site be opened up for development, would that be considered by your bureau?

Mr. SMITH. Not only would that be considered, Mr. Taylor, but if six of the citizens or five, or three of the citizens of Colorado put in a petition, the matter would be given full consideration.

Mr. TAYLOR. Of course our whole State has been petitioning and working on that one site for 5 or 10 years, to get it opened up.

Mr. SMITH. The fact is that some of these memorials from legislatures deal in glittering generalities rather than specific cases, and a bureau like the Geological Survey is not adapted by its organization to investigate glittering generalities. But when it comes to concrete cases for the restoring of this particular tract of land or reserving that particular tract of land, we are very glad, because we feel it is our duty to give consideration to just such cases.

Mr. RAKER. Right in that connection: Supposing I should present to your department a petition of 90 per cent of the citizens in two counties, with their supervisors and chambers of commerce and all organizations, asking for an investigation to be made as to the power possibilities of the Pitt River project, to the end that that which is not needed for the power possibilities might be thrown open, so that the country could develop that which has been held from development since 1902? Would your department take up this matter for an early investigation?

Mr. SMITH. If we had the money, we surely would do it on the petition of 20 per cent of the citizens of those counties. If we did not have the money, we would try to get the State of California to cooperate with us.

Mr. RAKER. What I am talking about is keenly before me every day, Mr. Chairman, and that is the reason I ask these questions. Now, I would like to ask the doctor this question, in regard to the question of the development of the West's hydroelectric power and the change that has been made within the last year. The Pend

d'Oreille permit was presented as a sample of that improved scheme to give better conditions and better results.

Mr. SMITH. Under existing law?

Mr. RAKER. Under existing law.

Mr. SMITH. Which is inadequate.

Mr. RAKER. Now, for the purpose of showing the criticism of the Pend d'Oreille permit, to show that the present conditions have not been such as to have the best development, and the necessity of legislation like we are getting here and putting this legislation in proper shape, I would like to submit for the record some comments on the Pend d'Oreille permit. This is a pamphlet which covers all these various phases.

(After informal discussion:)

The CHAIRMAN. Let the record show that Judge Raker has offered a pamphlet which purports to deal with the Pend d'Oreille permit and which he thinks has value sufficient to go into the record, but it does not seem to have an author.

Mr. RAKER. I am submitting it, let the record show, simply as information for the committee in discussing this bill, so that we may have all the light possible in getting a proper bill and in getting a bill that is workable.

The CHAIRMAN. Is there objection?

Mr. KENT. I object.

Mr. RAKER. Then I move, Mr. Chairman, that I be permitted to let this go in the record.

(After informal discussion:)

Mr. PIERCE. I wish to say, Mr. Chairman, and gentlemen of the committee that this paper discusses the rules and regulations which the Department of the Interior, since Mr. Lane has assumed office, have issued in connection with the permit to use the water powers of the Pend d'Oreille River, and it shows, to my mind, that many of those regulations in addition to the revocable feature are unworkable and no money can be raised under them.

I wish I knew who wrote this pamphlet, but it came to me in the mail without any means of identifying the author.

The CHAIRMAN. You can recognize the embarrassment of the committee, Mr. Pierce.

Mr. PIERCE. Yes.

Mr. THOMSON. Mr. Chairman, just think of the idea of putting a proposition like that into the record, where it is marked confidential and was sent through the mail under a 1-cent stamp, without the name of the author being attached to it.

Mr. RAKER. Mr. Pierce, if you were on the witness stand, and had the time to make a statement, would you like to have these things go in before this committee, so that we might have them for our consideration upon this bill?

Mr. PIERCE. I would. I wish I knew who the author was, because I would like to talk with him. He is evidently a master of the subject.

Mr. TAYLOR. You think it would be advisable and beneficial in framing a new bill?

Mr. PIERCE. I do.

Mr. GRAHAM. Do you mean to adopt it as your own?

Mr. PIERCE. I would be willing to do so. But I can see the embarrassment of the committee in putting in an anonymous document. But I do appreciate its full value.

Mr. GRAHAM. If you adopt it as yours it is not anonymous.

Mr. PIERCE. I will stand by the statements made there.

Mr. GRAHAM. On page 11, there are three corrections made in ink. The text has it "2 cents per kilowatt hour" and the correction makes it "2 mills per kilowatt hour," in each place. Was that correction in it when you got it or did you make it?

Mr. PIERCE. No, sir. But if you will read the text you will see why it is necessary. It was evidently a mistake in printing.

The CHAIRMAN. Gentlemen of the committee, I do not believe it is advisable to put this paper into the record.

Mr. PIERCE. Mr. Chairman, may I correct one statement. Several people who are interested in power matters in the State of Washington also received this pamphlet. It was mailed to a number of our people out there, and I was so much taken with it that I got an extra copy from one of them, and in his copy—you asked me, Mr. Graham, who wrote that in—he called my attention to the fact of this mistake, and I remember now that I corrected those lines. You asked me whose handwriting that was. It is mine, in that particular copy, because he called my attention to it. Instead of 2 cents, it should have been 2 mills.

Mr. GRAHAM. You see, in the main, we are not informed about these matters, and for myself I can say that I take them largely on faith—the faith of the character of the man who makes them.

Mr. PIERCE. Sure.

Mr. GRAHAM. Now, in this case, I could not attach any faith to it, because everything is against it. The author seems ashamed of his work. He is either representing some interest which is afraid to come forward and be known, or he has some malign purpose which prevents him from telling us who he is. As I am not competent to pass on the merits of it, I would have to accept it largely on the faith of the character of the man behind it; and I do not know who he is or what he is.

Mr. PIERCE. Mr. Graham, if you will read it you will find no vicious language; it is a calm, dispassionate discussion of the Pend d'Oreille permit.

Mr. THOMSON. Why is it marked confidential?

Mr. PIERCE. I do not know. The author may be a man who is interested in power matters throughout the country and did not care to give his name. I wish he had given it, I am sure.

Mr. SINNOTT. Mr. Chairman, I would like to ask a question of the doctor, and that is in section 4 there is a phrase "distributing company." What is the definition or the interpretation of that phrase, "distributing company" or the meaning of it?

Mr. SMITH. Why, I think, Mr. Sinnott, you probably have as clear an idea of that as I have. It is simply——

Mr. SINNOTT. No; I have no idea at all about that.

Mr. SMITH. It is simply a sale for the purpose of resale, as I would interpret it.

Mr. SINNOTT. What would the distributing company do?

Mr. SMITH. Why, it is a very common procedure for the power to e generated by one company and to be turned over to a transmis-

sion company. Then that company might take it to the city limits of a certain locality, and then a third company would sell to the inhabitants.

Mr. SINNOTT. Would the term "distributing company" embrace also a developing company?

Mr. SMITH. What do you mean by "developing"?

Mr. SINNOTT. Well, a company that develops the power.

Mr. SMITH. Oh, no. This is at the other end, between the developing company and the consumer, the idea being to prevent the very thing that has been done at Niagara, namely, interposing so many companies with a certain community of stock ownership and a certain amount of control of one by the other, and by reason of having contractual relations between them preventing the commission, which wants to regulate the rates, going beyond a certain point in the determination of costs.

Mr. SINNOTT. The distributing company, under section 4, would not be a company which generates the power?

Mr. SMITH. Oh, no. It would be a retailing company, you might say.

Mr. THOMSON. A jobber?

Mr. SMITH. Yes; a jobber.

Mr. SINNOTT. And in that connection I would like to call attention to the language at the top of page 3, about the physical combination of plants or lines for the generation, distribution, and use of power. You will note that the terms "generation," "distribution," and "use" are stated conjunctively. Was there any particular object in stating it that way?

Mr. SMITH. Some of those lines might be for all three and some might be for only one of those purposes.

Mr. SINNOTT. It might be contended that only a company which generates and distributes the power can be combined.

Mr. SMITH. The idea is the linking up of physical plants that might be entities each by itself.

Mr. SINNOTT. Either a generating plant or a distributing plant. I was wondering whether or not that language ought to be changed.

Mr. SMITH. The purpose there, I think, is plain; that is that you allow such physical union and to have supervision simply for the purpose of preventing any abuse.

Mr. SINNOTT. Have a physical combination of the generating plants or the distributing plants; either one or the other?

Mr. SMITH. Or of a plant that does all three in combination with another plant that does all three.

Mr. THOMSON. In this case should not the word "and" in line 4 be "or"?

Mr. SMITH. In some cases it might be "and" and in others "or."

Mr. THOMSON. To make it possible to be either, it ought to be "or."

Mr. SMITH. The advantage, I think we will all see, is the material advantage of getting a unity for better service.

Mr. THOMSON. As it reads now, the companies that combined would have to be companies that generated and distributed both.

Mr. SMITH. I think I will have to defer to the skill of the committee on that. I understand perfectly the idea, and I think the committee are of one mind on that.

Mr. SINNOTT. Is there any difference between the definition of the word "power" and "energy"?

Mr. SMITH. I think simply that "energy" is a more exact term.

Mr. THOMSON. They mean the same.

Mr. SMITH. They mean the same in this bill.

Mr. SINNOTT. In connection with that question I asked, this section permits the sale or delivery of power through a distributing company upon the consent of the Secretary of the Interior?

Mr. SMITH. Yes.

Mr. SINNOTT. Could the sale or delivery of power be made a joint distributing and generating company without the consent of the Secretary?

Mr. SMITH. That would involve a physical union of the physical properties of the plants.

Mr. SINNOTT. And come under section 3.

Mr. SMITH. Yes; under the proviso. The purpose in that, as I understand, is simply to bring the corporation out into the open with its proposed action, and I think most of those things should be done.

Mr. SINNOTT. It is a question in my mind whether or not under section 3 that physical combination could be made for the purpose of joining with a company buying the power.

Mr. SMITH. Yes; in some cases it would be. In all cases a general supervision by the Secretary of the Interior, in partial answer to a question which will be more fully answered by insertion in the record, I might say that the last time we took count of the stock there were 53 water-power cases pending in the Geological Survey, representing three and one-half million horsepower and transmission lines over 400 miles, so that the matter is not academic. The matter is really before us. But we have either to proceed under what is recognized as not an adequate law or to have something better. And referring to the Pend d'Oreille permit and not speaking of an argument, but speaking of a fact, the Pend d'Oreille permit is not only satisfactory simply to the applicant who received the permit, as stated to you yesterday by Secretary Lane, but we have a permit which has since been issued to Messrs. Schmidt and Mace for the development of the Colorado River on the line between Arizona and Nevada; and the engineer, Mr. Mace, not only said the Pend d'Oreille permit was a good permit in its terms, but he asked to have a permit for this other development issued to him in the same terms.

And there is a case of a brand-new development, not the extension of some other development undertaken years ago on private lands, but this is a brand-new proposition and the permit was issued last November for a power development of 40,000 continuous horsepower capacity on the Colorado River. As I said, it will have to be at a low cost of development, because the market conditions are not very favorable, being close to mining camps on the south and possibly on the north in Nevada. But, of course, that mining market, as it happens, is a relatively stable one, as mining markets go, but, of course, it does involve long transmission lines; and, of course, the engineers appreciate the large stream flow, which will make the construction somewhat difficult.

And in that way, as showing the way in which these matters are being administered and would be administered under the law, the

applicants did not come within the terms and conditions of their permits in filing the final plans within the time specified by reason of having difficulty in getting the engineering work done and also in getting money for that engineering work, and it simply necessitated a request to the Secretary of the Interior for the grant of an exten ion of 90 days in which to perfect their plans. There is no difficulty in the administration if we have anything like the right kind of law. In this case it is an inadequate law we are trying to administer.

Now, whether that scheme is going through, I do not know; but I do know it is stated in engineering journals and it has been confirmed by Mr. Mace, one of the permittees, that arrangements have been made with an English concern for the underwriting of a $3,000,000 bond issue to construct this project.

Now, you have all of this site on unsurveyed public land, and it is included in one of our power-site reserves. Here is a demand in other words, for development. So I am going to admit that there is some development going forward, even under the existing law which is inadequate, as we consider it at the present time.

Mr. TAYLOR. In this law, do you think it is sufficiently broad there to allow the little fellows to come in? We have been talking about the big corporations, but I mean the one individual man or a few farmers who want to pump or things of that kind? Does this contemplate those, without a 50-year corporation?

Mr. SMITH. Why, Mr. Taylor, if you will write into the law the provision that is already in the draft, providing for general regulations, I should expect the Secretary of the Interior to provide specifically for just such cases. I understand (and I hope you will ask that same question of Mr. Merrill, of the Forest Service) that such permits are issued for the small man.

Mr. TAYLOR. What I wanted to get at is to look after the little man. I am a great deal more concerned about him than I am the big fellow. The big fellow can take care of himself.

Mr. SMITH. If you make a law and set it down in one hard and fast rule, it will be difficult to give the proper treatment to the little man, because the restrictions will be measured with respect to the big man so as to protect the public property from control by the big man. But if you make the administration of this law under the discretion of the Secretary of the Interior, the general regulations will provide, it seems to me, for everything except to give a bonus to the small man to develop that power for his own use, or for a municipality to develop power for its own use.

Mr. TAYLOR. Will it be that he can get the development of it without hiring high priced attorneys to come down to Washington?

Mr. SMITH. The present practice, I think, in the administration of all of these public-land laws is to help the little man, to cut out the filing of papers in legal form and to cut out the necessity of affidavits and wherever the man can make a showing in a request written in lead pencil to grant his application; but in the case of the big corporation, the effort is to fence that proposition around with every safeguard we can in the interest of the public. It seems to me illogical to think of protecting the public and then grant something to an individual to prey on that public.

Mr. RAKER. May I ask a question right there, Doctor? Would this be a fairly proper statement:

"Everybody knows that the water powers now running to waste, because of Federal ownership of land, should be conserved through immediate use to their fullest extent for the public good in substitution for the hundreds of millions of dollars worth of nonreplaceable fuels now necessarily consumed every year"?

Mr. SMITH. Well, I would not say that for a moment, for the reason we do not want to develop water powers where there is no market for the water power. That is not economic. Neither do we want for the sake of saving coal resources not to use those coal resources where they will give results at a cheaper cost than would be possible otherwise, say, by water power.

Mr. RAKER. Should be used economically and have a market.

Mr. SMITH. They should. And unless there is some very restrictive legislation, they will be used. And, in some cases, as I have pointed out, they are being used to-day and the use is being extended under laws which we all recognize and admit and express in strong terms are not adequate.

Mr. RAKER. May I ask one other question: In your view, would this be the condition, from the testimony that has appeared before the committee, that the tax levied by the Government in the form of compensation by the commission forms one of the items in the cost of operating the power system and must therefore be included in any computation of what constitutes a fair rate to the consumer? Would that be a fair statement of the conditions?

Mr. SMITH. No, sir; it is not a fair statement.

Mr. RAKER. Just explain it.

Mr. SMITH. It started out as a fair statement, but it ends up as an unfair statement. Now, there has been a great deal of talk, if you will allow me to explain that proposition——

Mr. RAKER. I wish you would.

Mr. SMITH. There has been a great deal of talk about this pocket proposition of "taking out of one pocket and putting into another pocket," a homely illustration which makes it more concrete and less abstract. The gentleman from New York introduced the idea of the pockets being in the same pair of trousers. Now, take the illustration that was cited, namely, that of the Chicago traction situation. The statement was made that whatever goes to the city of Chicago, by reason of that agreement, comes from the working classes who use the street cars, rather than from the people who use the automobiles; and therefore the shop girls and the widows and orphans pay into the city treasury this amount.

Of course, it is true that not a bit goes to the city treasury that did not first go to the company from its customers. So far, that is true. It is not true any further, because we need to introduce the question, Where would that $15,000,000 which goes to the city under the agreement have gone had there not been such an agreement?

In other words, you see it would have gone to the stockholders of the company; and so it is not taking something from the customers of the traction company and giving it to the city. In reality it is taking something that otherwise would have gone to the stockholders and giving it to the city. And in that case I believe that the revenue which goes to the Government is not a direct tax upon the consumer. But there are many cases where with the most effective rate regulation it would be a tax, because it would be a part of the cost. So that the

statement as read can not be true except where there was absolutely effective rate regulation.

Mr. RAKER. I am assuming all the time there is effective rate regulation.

Mr. SMITH. But that, as I understand it, Judge, is theory rather than practice.

Now, mention has been made of the Mississippi dam at Keokuk. I do not know all of the matters connected with that, but there is one interesting phase connected with that proposition, and that is that the soft-coal clause is introduced into the contract with the users of this Mississippi River power in St. Louis, and the result of that is that if coal goes up, no matter what the price of water power is, whatever the cost of water power is on the Mississippi River, as soft coal goes up and the cost of generation from soft coal is increased, with each succeeding five-year period there will be a readjustment of rates under this contract, and the price paid for this Mississippi power is surely going up. Now, there is a case where a tax by the Federal Government or a State government would not be paid by the consumer; it would simply decrease some of what seems to me the unfair profit that may accrue to the water power development.

Mr. RAKER. One other question, and I am through. Assuming, now, full and complete regulation by a public service commission, would not the charge made for the permit or a lease ordinarily, and practically necessarily, eventually come out of the consumer?

Mr. SMITH. Theoretically it would, of course, come out of the consumer; and for that reason, I believe, granted that we have effective regulation, there should not be anything other than enough to pay for their administration.

Mr. RAKER. That answers the question.

Mr. SMITH. The administration of the law would be then a part of the expense of the power development. And again I repeat that in my opinion this is not a revenue bill; it is simply a regulatory bill. And if the regulation is effective, why then the charge by the Government would drop to a nominal one. But I think it will cease to be a regulatory bill if that charge is fixed at 25 cents or 50 cents or 75 cents—you will lose the purpose of the bill.

Mr. KENT. In other words, that Keokuk Dam situation may be guarded against if power is vested in the Secretary of the Interior to fix a varying tax, could it not?

Mr. SMITH. Yes, I think that would be a real regulation. In other words, what was taken out of the public would be passed back to the public. And, right there, is a case where you have three States, and I do not see, under the present conditions, how each of the three States can regulate the rates for that Mississippi River power.

Mr. TAYLOR. Mr. Smith, the newspapers here some time ago published a statement purporting to be made by the Secretary of the Interior, in which he stated he desired to raise $100,000,000 for reclamation work. Now, if he is going to raise $100,000,000 for people out in that country for reclamation——

Mr. KENT. He denied that, absolutely.

Mr. TAYLOR. I never saw his denial. I was just wondering where this revenue was coming from. Of course, I feel like you do. We do not want any development at the expense of ourselves in that way.

But if it is to be simply regulatory, and it will stop at that, I can see where it would be very beneficial in many ways.

Mr. SMITH. I think the whole purpose of the bill is regulatory and protective.

Mr. RAKER. And not for raising revenue.

Mr. SMITH. Not protection for revenue only, in principle.

The CHAIRMAN. I can state, with a great deal of freedom and frankness, so far as I am concerned (I do not try to bind anybody else, because there will be differences of opinion about it), the purpose of getting revenue out of this bill does not amount to but little to me. In truth it is not the large question at all. The question of preserving the opportunity to get the property back and let the people who actually need light for their homes, to light their homes and run their vehicles and do the multitude of things which will be done in 50 years from now, is the thing I am earnestly and anxiously trying to preserve in this proposition.

Mr. SMITH. So am I.

The CHAIRMAN. And to let anything go that would look like parting with the power of falling water to light homes and do everything on earth, for all times to the people, is the thing I will never cast a vote for, while I am here. And we ought not to allow it to be done.

Mr. SMITH. I would simply like to make this statement, in regard to the Canadian conditions which was brought into the matter as affording competition to the manufacturer by electricity of certain chemicals which are very essential to our industrial life, that I am of the opinion that we need not fear the competition to a large extent from Canada. Some years ago I secured, after conversation with an engineer of standing in Canada, a letter from him in which he discussed this matter of costs up there. Well, the sum and substance of it is that Mr. Kerry, of Smith, Kerry & Chase, engineers of Toronto, who have done work on this side of the line as well as on that, under date of February, 1910, showed that the developing costs and the transmission costs are not essentially different in Canada from what they are in this country.

Of course, we can compare a very favorable project in this country with another project in Canada and say that power is cheaper in this country than it is in Canada; and, vice versa, we can show a very favorable site in Canada and compare it with a project in the United States and say cheaper power can be developed there than at certain places in this country, but all things taken together, I do not know that the differences are essential. They are not differences of large magnitude.

There is simply one other line I wish to mention, and that is our experiences with the present law, not simply with the 1901 law, under which we are issuing permits for water-power development, but the other laws, especially the 1891 act, which is the irrigation act.

That is a mandatory act which gives a grant to the land, and that is the act with which we are having the most trouble for the reason of its being mandatory and giving an absolute grant of the land, so it is the one that is taken advantage of. And our experience is to the effect that this law, especially, is used as a means to secure title to power-site lands, and, once secured, it is only a short route that is followed whereby those lands get into the control, into the ownership, of large power interests.

I could cite several cases. The Kern River Co., which, I believe, is in trespass, is a case in point. Land was granted for irrigation use when, as a matter of fact, there was not any water that could be appropriated from the State for irrigation purposes. But there was water, of course, that was available for passing through the wheels and entering the river again for use by prior appropriators lower down the stream.

Another case in point is that of the Green River Co., whose representative was one of the witnesses here, Mr. Leighton, where the company wishes to secure a right on a canyon of the Green River, the purpose being to irrigate certain land for which application has been made through the State of Utah, under the Carey Act, and they wished to secure this power privilege in that connection. But they will have to turn back into the river 1,600 second-feet, and of course they could develop considerable horsepower—20,000 horsepower. But in case the irrigation scheme should fall through and such schemes, where there is valuable power connected with them, do fall through sometimes, why then there would be 50,000 horsepower that would be developed and sold. And the effort is being made to secure that under the 1891 act, which is the irrigation act.

Of course, the recommendation has been made that they be required to take out a permit under the 1901 law, and I am speaking of this in connection with the advisability of repealing all of the laws that relate to power development, of course, allowing the permittees, as has been suggested, to come in under this law if they so elect, and, of course, not taking away the privileges if they shall continue under the old laws.

A case that troubles some of us a great deal is the Crane Falls case. Without going into the details, they asked for a reservoir site in connection with irrigation and they wanted to generate the power for irrigation uses solely, and they made a very good case and finally got through the department with that grant. The next thing that happened, we found that the rights were transferred to an Idaho corporation—to the Crane Falls Power & Irrigation Co.—and then this company had promptly transferred part of its rights back to the irrigation district, and that is about the only connection it has had with the irrigation. Later, this contract which had been executed for power service for irrigation was given up and the control of the power site passed finally into the hands of a commercial power company, although, as I say, the grant was originally made to the Gem irrigation project exclusively for irrigation purposes. The next report was that the Gem irrigation district is to be supplied temporarily for five years with power from another plant of the same company, and the next incident was where the Gem irrigation district inquired whether they could buy of the Reclamation Service power for irrigation purposes. Furthermore, there was pending at one time the application for a transmission line from this power site, which was granted for irrigation purposes, to the lands under the irrigation district which were to be irrigated by means of this power, and the corporation later filed its notice that it would withdraw the application, because they did not need to use the line. In other words, the last connection between this plant on the Crane Falls and Snake River for irrigation development is now severed and a valuable power privilege

has gotten where I believe it was intended to go at the outset—namely, in the hands of the power company for commercial purposes.

Now, that is the kind of advantage that is being taken of the irrigation act of 1891.

Another case which comes under the Utah Power & Light Co. is the Bear Lake Reservoir, a very important reservoir, which was applied for by Mr. Nunn, who was then connected with the Telluride Light & Power Co., for a right of way for irrigation. He finally got the right from the State, also, to store water in Bear Lake, which, when released, was to be used for irrigation and other beneficial uses, and the map accompanying the application showed that the reservoir was desired for the purposes of irrigation. Now, the facts are that this Telluride Power Co.'s (which later transferred its holdings to the Utah Power & Light Co.) present holding is used and has been used for three years now as a reservoir solely to regulate the flow of Bear River for power purposes. The irrigation use has been purely incidental and because of any irrigation use of this reservoir, not an acre of additional land has been irrigated.

Now, that is why we are suspicious of allowing any rights to accrue under existing laws. We want to see power development come under this law, and all other laws to be repealed in so far as they relate to power development. Of course, it is just simply the case of the burnt child—we have been up against what, in the slang phrase, might be expressed as a skin game, and we have had our hands blistered. We are anxious to see a law that can be effectively administered in the interests of the public.

Mr. JOHNSON. Just one question here, Mr. Chairman: Your department, then, objects to the additional use of a water supply for power purposes? For instance, where an application is made for irrigation and may be used for that purpose, and may also, in addition to irrigation, be used for power purposes, you object to that?

Mr. SMITH. Wherever it is possible to divorce the two uses to make them take out a lease——

Mr. JOHNSON (interposing). For each purpose?

Mr. SMITH. To give them a grant for the irrigation, and in so far as they utilize the water before it goes on to the land for irrigation purposes, to make them take out a power lease just as much as if that water was going to be used later for irrigation.

Mr. KENT. One witness here, Mr. Leighton, said he had served under five Secretaries of the Interior, and their policies concerning this water-power matter were all different. You have been here right along. Have you found that?

Mr. SMITH. I have served under more Secretaries than Mr. Leighton, including the same ones he has served under, and for several years I have been in even closer relationship with each one of those Secretaries than he was; and I did not see any of this seesaw attitude of the Secretaries of the Interior that some people have tried to impress upon you as existing. I do not see any essential difference of opinion between ex-Secretary Fisher and Secretary Lane. I am inclined to think that Secretary Lane goes further in the right direction than Secretary Fisher did and that Secretary Fisher went further in the same direction than any of his predecessors did. I think we are all progressing and there is a progressive change of atti-

tude, but I think the same policy has actuated the different Secretaries I have served under.

Mr. KENT. Do you not believe that the few persons to benefit directly by the dividends and profits of the power business are much safer in the hands of the Secretaries of the Interior and the Federal Government than many consumers of power would be in the unrestrained hands of the power takers?

Mr. SMITH. I will not only say yes to that, Mr. Kent, but I will go further: I will say I believe the bondholders and the minority stockholders are far safer under all the regulation that you can put into this law, and laws passed by the State legislatures, than they would be under the unrestrained activity of the corporation men of to-day; because I believe that corporate control, at its worst—and it has been at its worst here and there for a number of years—hurts the investing public. I come from New England, and the moderately poor people of New England are in bad straits just now by reason of the financial control of one of the big railroad systems of that region; and they would have been in much better shape if the States of New England and the Federal Government had exercised, years ago, the same power they are exercising now. I think, by all means, the investing public as well as the consuming public will be benefited in the long run by the kind of control we are advocating. The one thing that makes me seem, possibly, to be bitter against certain elements in the management of big business is that they do not play fair among themselves.

Mr. SINNOTT. I want to understand you correctly, Doctor, on that matter of conflicting applications for power and irrigation purposes. Do I understand you that if an irrigation application would possibly interfere with the development of power, then you will compel the irrigation applicant to develop the power? Is that it?

Mr. SMITH. Oh, no; I would not go at all as far as that. There are some cases where the irrigation use of the water is far superior to any power use, because it goes to the developing of homes on the land.

Mr. SINNOTT. You would not have a hard and fast rule by which to determine in each case?

Mr. SMITH. No. We might destroy the possible use for power of that particular reservoir site or that particular dam site; and yet there are other cases, where it comes to the development of irrigation, when the region is so high up in the mountains that only one or two crops of alfalfa could be raised in the course of a year. Then we might figure that that community's or the State's interest in the power development might possibly outweigh any irrigation use. Each case has to be decided on its own merits; and, as a general principle, you can not set down that irrigation use is always the higher use. In some cases, however, the two can be joined together so that there is a double use; but in all cases that is not true. You can not always irrigate with the same water that you use for power, because the power use is a continuous use, in the main, while irrigation is a seasonal use. But, to a certain extent, ranging from 25 per cent up, there can be a double use.

Mr. SINNOTT. And where that is possible, you would compel the irrigator to double that use?

Mr. SMITH. To double the use, and it would be for his own interest, because the double use would reduce the initial construction cost which, of course, resolves itself into a continuous interest charge on the water.

Mr. KENT. That would go right to the question of mandatory bestowal of these privileges in the proposed amendment.

Mr. SMITH. Under a mandatory law I do not see how the Secretary of the Interior could refuse to lease to a man who might simply wish to disregard the other use and devote a particular site to a power use. In most cases it would be giving the power user the upperhand, as we developed in the Hetch Hetchy case.

Mr. KENT. And in the Lake Tahoe case?

Mr. SMITH. And in the Lake Tahoe case.

Mr. SINNOTT. I think it would be a pretty wise precaution to take.

Mr. THOMPSON. Is not this an illustration of the fact we ought not to let these provisions in the bill be too inflexible?

Mr. SMITH. It is simply tieing the hands of the administrative officer. If you want to put a law on the statute books which means the executive officer of this Government is going into the administration of that law with his hands tied while the corporate interests, who are going to be pretty active in the matter, are going at him with hands untied, I think Congress would be making a mistake.

Mr. GRAHAM. We have not developed the field far enough to make the provisions rigid, anyhow.

Mr. SMITH. We do not know what the morrow may bring forth in some of these matters.

Mr. PIERCE. Referring just for a moment to the comments on the Pend d'Oreille permit which was included in the document I handed Judge Raker this morning, I would have mentioned it to the committee at the time I was on the stand, but during the time I was testifying the Pend d'Oreille permit did not come up for discussion and therefore I did not think of it. But yesterday you did discuss the Pend d'Oreille permit and, remembering I had this document, I handed it to Judge Raker because I thought it might contain something that would be of value to the committee. And I want to take entire responsibility for the document as far as Judge Raker is concerned.

Mr. RAKER. The Pend d'Oreille permit was put in the record yesterday and there are many, many things in this document the committee should act on. But I do not get behind anybody's back; these things in here are for the consideration of the committee and I am responsible. I am not shoving it forward here for a little public notoriety and a little public talk; I want to get the facts.

(Thereupon, at 1.50 o'clock p. m. the committee took a recess until 2.30 o'clock p. m.)

AFTER RECESS.

The committee met at the expiration of the recess.

The CHAIRMAN. Dr. Smith, whom we heard from before lunch, wants to put in the record a few words.

Mr. SMITH. I believe it was the last question to which I made reply, a question by Mr. Kent, asking me if I believed that regulation would benefit the consumer, and I not only expressed my opinion that it would benefit the consumer, but that it would also benefit the investor. Of course, I realize that, as I am in the public service and

not in the business world, some of those ideas may be regarded as theoretical and visionary, so I wish to supplement my personal belief in that matter by a statement contained in a circular letter I received this noon from a banking house in Boston, in which they call my attention to a certain public utility bond in these words:

No more bonds can be issued only under the authority and supervision of the railroad commission of Wisconsin, acknowledged to be the best commission in this country for the protection of both the investor and consumer alike.

Another banking house in New York puts at the head of its bond circular the following statement:

The protection afforded invested capital through the operation of public service commissions is recognized as a factor in favor of such securities. The general attitude of State public service commissions is indicated in a recent decision of the Public Service Commission of Pennsylvania as follows:

"Vested right and interests must be duly conserved and protected. The commission has no warrant to invite or permit limited competition anywhere unless the area and population served, the needs of the community or the prospects of the municipality, as based on its growth and development, can reasonably show that the public welfare demands it. This principle of protection must be extended to the public utility to the end that the individual citizens, who have invested in its plant equipment in good faith, may be duly protected in their investments."

STATEMENT OF MR. O. C. MERRILL, CHIEF ENGINEER, DEPARTMENT OF AGRICULTURE, FOREST SERVICE, WASHINGTON, D. C.

The CHAIRMAN. You may proceed. You had better give your full name to the reporter.

Mr. MERRILL. O. C. Merrill.

The CHAIRMAN. What is your official position?

Mr. MERRILL. Chief engineer, Department of Agriculture, Forest Service.

I may say, Mr. Chairman, that I have been engaged in water-power work, both with the Government and with private concerns, since early in 1906. My first experience in water-power work was in the West as an engineer for the Oregon Railroad & Navigation Co., engaged in the investigation of water powers in California, Oregon, and Washington for that corporation, and in the preparation of reports and estimates of developments that the company had in mind for the purpose of electrifying certain sections of its road.

In May, 1909, I was appointed in the Forest Service to make a special study of water-power development in the State of California. I had scarcely gotten started in this work when it became necessary for me to take up the duties of district engineer of the Forest Service, in California, and I thereafter was engaged on general water-power work for the service in that State. In May, 1910, I was appointed chief engineer of the Forest Service, and since that date have had the immediate administration and technical supervision of the water-power developments that are under the jurisdiction of the Department of Agriculture.

You have had related to you more or less of the history of water-power development in the United States. In point of years it is a new industry; in extent of development it is an old one. The first commercially successful alternating-current plant in the world, generating single-phase current at 3,000 volts and transmitting it

at that voltage for about 3 miles, was put into operation at Ames, Colo., in 1890, antedating by about a year the famous Frankfort-Lauffen experiments in Germany. In 1892 the first transmission with stepped-up voltage was put into operation over some 14 miles of line from the San Antonio plant in southern California, and in the following year the first polyphase plant began operation at Redlands, Cal. Since that time—a period of scarcely more than 20 years—we have had a remarkable development of electrical power, not only in the degree to which the industry has been extended, but also in the improvements which have been made in the hydraulic and electrical machinery, until at the present time electrical equipment at least has very nearly reached the limit of efficiency.

The first act under which rights of way for water-power development were granted on the public lands of the United States was approved on May 14, 1896. That act is similar in its nature to the act which has been discussed here before you, the act of February 15, 1901. Two years later, on May 11, 1898, an amendment was passed to the irrigation act of March 3, 1891, which allowed the use of rights of way, intended primarily for irrigation, for the development of electrical power, and three years later than that, on February 15, 1901, was passed the act now in force and under which practically all of the water-power development on public lands has taken place.

By the act of February 1, 1905, the national forests were transferred to the Department of Agriculture, and shortly after that date the first attempts were made to exercise any governmental regulation of consequence over the use of rights of way upon the public lands for water-power purposes. The first regulations, issued on July 8, 1901, were very simple in character, requiring hardly more than the filing of a map and field notes of survey. These regulations had proven unsatisfactory in many respects. The first duty that devolved upon me when I entered the Forest Service was to take up the question of the regulations which ought to be adopted in handling the water-power problems of the department. In doing this I did not trust to my own experience and my own opinions. I and other members of the department took up the matter in detail with engineers, bankers, and lawyers, both East and West, with such men as John R. Freeman, of Providence, R. I.; Prof. Swain, at that time in the Massachusetts Institute of Technology; with Prof. Marx, of Leland Stanford University, who is a well-known engineer of the Pacific coast; with bankers in New York and Boston, among whom was the firm represented at this hearing by Mr. Willcox, and many others, in an endeavor to secure information upon which to draft regulations giving reasonable control over the situation, and at the same time not imposing any unnecessary restrictions upon applicants for permits for the development of power. These regulations have been amended in detail since, but not in principle.

As the matter is now handled by both departments—between whom there is no essential difference in regulations or in the method of handling applications—a double permit, or, rather, two separate permits are issued. This answers an objection which was raised by Mr. Finney, I believe, and some others in this hearing, with respect to the amount of investment that must be made before there is any

chance of securing a permit or of being certain that one can be secured. We issue first what we call a preliminary permit, upon the simplest showing of what the company intends to do—a mere line map that will indicate the section of the country that the company proposes to make its investments in. This permit is issued in order that the applicant may be protected against subsequent parties who might acquire adverse rights, following precisely the methods of priority of time in the appropriation of lands in the Western States under the mining laws and in the appropriation of water under the water laws. Under this preliminary permit we grant such time as seems necessary to make surveys and any other investigation that is desirable, and even for making financial arrangements. The period depends upon the circumstances. Usually it is about a year. In certain cases where the amount of investment necessarily is large, it has been extended to three years. The permittee is required, on or before the date of termination of the permit, to file maps and plans of its proposed development, and upon those maps and plans, and upon the studies made by our engineers, we determine the conditions of the final permit in accordance with general regulations issued under the law. After this final permit, as we call it, is issued sufficient time is granted the permittee to do any necessary preliminary work, such as the construction of roads and trails, etc. The time which is granted for this purpose varies from six months to two or three years. Thereafter the permittee is required to construct, with reasonable diligence, and complete within the time named in the permit. And I may add that the time granted in the preliminary permit and the dates for beginning construction and completing construction under the final permit are, in 9 cases out of 10, the periods which are requested by the permittees themselves. It is only when we believe an applicant is asking for an unreasonable time or is not acting in good faith that we do not give him what he asks in this respect. This will answer the objection raised by Mr. Finney, that it may be necessary to invest millions of dollars in engineering work before an applicant can know whether he will secure a permit. A priority right may be secured without any investment, and only under extraordinary circumstances, an instance of which has not yet arisen, would there be failure to grant a final permit to a man who had complied with the conditions of his preliminary permit.

I wish to read you briefly what the requirements are under a permit issued by either department. In the administration of water-power sites the departments grant to applicants: First, a form of permit which enables them to maintain their priorities while making such surveys and investigations as are necessary to determine the feasibility of the project being considered; second, after investigations have been completed a form of permit, which allows the construction and operation of reservoirs, conduits, and power houses and transmission lines, or any other structures necessary in power development; third, security of tenure to the extent that it can be granted under the law, by strictly observing the letter and the spirit of the permits issued and revoking them only for cause and after full opportunity has been given to make any showing why such action should not be taken.

The CHAIRMAN. Do you give them, at the time you issue a permit, a form that they will later have to subscribe to if they go ahead?

Mr. MERRILL. They subscribe to it, Mr. Chairman, before they get it. That is, the conditions are all arranged ahead of time.

The CHAIRMAN. Are they arranged at the time of issuance of the preliminary permit?

Mr. MERRILL. At the time they secure the preliminary permit they know the conditions which will be put into the final or permanent permit.

The CHAIRMAN. So they do know in advance precisely what they have to do and precisely what terms they offer to a loan company in order to get money?

Mr. MERRILL. They do.

The CHAIRMAN. So, so far as that one thing is concerned, there is no trouble about that, is there?

Mr. MERRILL. There has not been any question raised.

The CHAIRMAN. There has been no serious objection to that, particularly?

Mr. MERRILL. There has not.

The CHAIRMAN. The main objection has been that you could come along in a moment and cut their head off.

Mr. MERRILL. What I have just said in respect to security of tenure I shall take up after a while in more detail. I will merely state here that the departments endeavor to give security of tenure by strictly observing the terms of the permits, revoking them only for cause and after full opportunity has been given to make any showing that such action should not be taken.

The CHAIRMAN. The regulations provide notice of that, do they not?

Mr. MERRILL. They require notice in every instance.

The CHAIRMAN. Has there been much complaint as to the sufficiency of the hearing imposed or afforded? Have you had any trouble about that?

Mr. MERRILL. No, we have not, Mr. Chairman; I do not recall that anybody has raised any objection or that there has ever been any complaint made that all the hearings which any applicant or permittee might desire were not granted.

The CHAIRMAN. There is some testimony in the record that some projects have been rather summarily, as the witnesses said, revoked.

Mr. MERRILL. Yes.

The CHAIRMAN. Now, can you tell us how much of a hearing was given before those revocations were taken?

Mr. MERRILL. I want to make this statement in regard to that, Mr. Chairman: What I said just now is with respect to present regulations and the present position of the department. The revocations, a list of which was introduced by Mr. Willcox, were made on March 2, 1909. Those permits had been issued at an earlier date by the Secretary of the Interior and were indorsed thus:

The use of the right of way shown on this map is hereby permitted in accordance with the provisions of the act of February 15, 1901 (31 Stat., 790), and the regulations present or future, thereunder, to the extent only of the grounds occupied by the structures and 50 feet on each side of the marginal limits thereof, on condition that the applicant constructs and maintains suitable bridges or crossings wherever the right of way at all interferes with the use of existing trails and roads or those which may hereafter be built by or under the direction of the forest officers.

On March 2, 1909, there was revoked, under the provisions of that indorsement, some 25 water-power permits, but at the same time and

concurrently with the letter of revocation went a statement to the officer who should present the order of revocation to the permittee, that the revocation would not go into effect until July 1 succeeding.

The CHAIRMAN. What year was that?

Mr. MERRILL. 1909. Instructions were also issued that prior to July 1 there should be submitted to the permittee for his signature a permit of the standard form then issued by the department, and that in case any investment had been made on the strength of the indorsement of the Secretary of the Interior on the original maps, the charges, which ordinarily ran from 2 cents to 32½ cents per thousand kilowatt hours, should not be greater than 2 cents per thousand kilowatt hours for 26 years.

The CHAIRMAN. Where they had made any investment at all?

Mr. MERRILL. Any investment at all, under the provisions of the original approval.

I have here, Mr. Chairman, a statement with respect to each of these revocations.

The CHAIRMAN. Showing what had been done on them in the way of investment?

Mr. MERRILL. Showing what had been done.

The CHAIRMAN. And what hearing had been had with reference to them, if any?

Mr. MERRILL. It is my impression that no hearing was had.

The CHAIRMAN. I see. But you say that in March you served notice on them that on or before July 1 they would have the privilege of entering into another contract which you would submit to them?

Mr. MERRILL. Yes.

The CHAIRMAN. And if they did not do that, I presume the notice ran that they would be canceled.

Mr. MERRILL. I do not recall, but I will file a copy of the notice.

The CHAIRMAN. Very well.

Mr. MERRILL. I wish to call attention to the words in the indorsement written on the original map, that the approval was subject to the regulation, present or future, under the act, and that the form of the permit which was to supersede those revoked, was in accordance with the regulation then in effect. Furthermore, in several instances in which negotiations with the permittees did not result in the signature of a permit by July 1, in fact in every instance where it did not, a temporary permit was thereupon issued so that there should be no time in which the permittee would be without authority to make use of the public lands.

The CHAIRMAN. A temporary permit was issued to whom?

Mr. MERRILL. To the permittee, whose original permit had been revoked by the order of March 2, 1909.

The CHAIRMAN. Another temporary permit?

Mr. MERRILL. Another temporary permit after July 1.

The CHAIRMAN. Extending his time how far?

Mr. MERRILL. Until conditions could be arranged under the regular form of contract.

I wish to put the forms of permit into the record, together with certain data concerning the revoked permits.

The CHAIRMAN. Without objection that will be admitted.

(The papers referred to will be found as Exhibit Q in the appendix.)

The CHAIRMAN. Now, let me ask you what per cent of these 25 permits that you revoked had actually made any expenditures at all?

Mr. MERRILL. Thirteen out of a list of 25.

The CHAIRMAN. Thirteen of them had?

Mr. MERRILL. Thirteen of them had some investment, either partial or full.

The CHAIRMAN. Did they lose their investment by reason of this revocation?

Mr. MERRILL. They did not.

The CHAIRMAN. You did issue them a permit?

Mr. MERRILL. We issued them a regular form of permit when the terms had been agreed to by July 1, otherwise a temporary form. Actual permanent revocation finally took effect only in those instances where permittees, after years of ineffectual attempt to come to agreement, absolutely refused to sign any form of permit whatever.

The CHAIRMAN. You did not revoke any as long as they were trying to negotiate and trying to get together?

Mr. MERRILL. Not one.

The CHAIRMAN. Not a one?

Mr. MERRILL. Not one, so far as I have been able to learn.

Mr. THOMPSON. How many of them refused?

Mr. MERRILL. I can only pick these out by names as I go through. The Telluride Power Co. was one and the Central Colorado Power Co. another. Both cases are now in litigation. The Nevada-California Power Co. long declined to come to an agreement; in fact, a permit was not finally issued until November, 1912. Meantime the plants had been in operation as though the original permit had not been revoked. The two first-named appear to be the only ones that have consistently refused to accept permits.

I wish to say further that in many cases shown on the list no construction had ever been attempted. In several instances the projects had actually been abandoned, in a few cases construction had been started, and in others construction had been completed. I wish to say this, that personally I think the action was unnecessary, and that it has had a bad effect.

The CHAIRMAN. You mean the revocation?

Mr. MERRILL. Yes; for this reason, that the conditions under which the original permit was granted, as I have read to you here, would have provided for any regulation that was necessary under agreements then in effect.

The CHAIRMAN. What brought about those revocations, Mr. Merrill?

Mr. MERRILL. What brought them about?

The CHAIRMAN. Yes.

Mr. MERRILL. The feeling, as I understand it—because this happened before I entered the service—that here were certain permittees who were operating on the public lands under conditions which were not granted under existing departmental regulations, and as a matter of justice to new permittees, the old permittees should be put upon the same basis.

The CHAIRMAN. That, under your regulations and procedure, they used as a club to beat you with?

Mr. MERRILL. We have had it waved over our heads ever since. Since I have been in the department I have personally insisted, as

have the other members of the department, that under no circumstances would we revoke any permit for other than a breach of conditions, and then only after full hearing had been granted.

Mr. RAKER. In that connection, Mr. Merrill, have you copies of the original permits that were granted to these several individuals and companies that you have given a list of here?

Mr. MERRILL. The only permit was the indorsement on the map that I read to you. It will appear when it goes into the record.

Mr. RAKER. The new permits required that you put up to them to accept or the permit that they had would be revoked. Is that in this record also?

Mr. MERRILL. Yes.

Mr. RAKER. If it is there, that settles it.

Mr. MERRILL. The temporary permit is there. That was issued on July 1. But I am in doubt, with respect to the form of permit that was put up afterwards.

The CHAIRMAN. Will you supply that?

Mr. MERRILL. I will supply that.

The CHAIRMAN. I should think that would be very valuable. You did not increase the charges in the second permit over what they had been in the first?

Mr. MERRILL. I do not understand you.

The CHAIRMAN. Was there any increase in the charges in these rules and regulations in the second permit which you were to give them, over and above the first permit, which they had?

Mr. MERRILL. The permit which they had, which consisted of the indorsement of the Secretary of the Interior on the map, carried no charge whatever. The new permits which were being issued by the department at that time did.

The CHAIRMAN. In addition to that, were there new conditions and new regulations required of them under the second permit?

Mr. MERRILL. The first permit merely stated that the right was granted subject to regulations existing, present or future. The new permit recited the regulations which they were to be subject to. That is the difference. The original permit was subject to change as the general regulations might change, and the second permit was not subject to such change, but only to the conditions of the permit as written.

The CHAIRMAN. Is there any written instrument other than that original notation?

Mr. MERRILL. No.

The CHAIRMAN. That was the only thing that was done? I suppose you entered that up on the tract books.

Mr. MERRILL. I presume so. It was the customary indorsement that was made on the maps before the act of 1901.

The CHAIRMAN. How fully does such a notation as that, under the law, segregate the land? Is it a complete segregation?

Mr. MERRILL. Do you mean that it segregated the land to such an extent that other applicants could not apply?

The CHAIRMAN. Yes.

Mr. MERRILL. I am not certain about that, Mr. Chairman. I think it was not at that time the practice of the Interior Department to list these revocable permits or licenses on the tract books since they were considered subject to superior rights, such as easements,

which might be initiated subsequently to the issuance of permit. At the present time it is my understanding that they do list them. These permits that were issued under the act of 1901 are in law mere licenses.

The CHAIRMAN. It seems that water power must have been very much in its infancy to have proceeded on so brief a notation as that.

Mr. MERRILL. You will recall that this act was passed in 1901. The first development was in 1890, and this was in 1901—11 years after.

The CHAIRMAN. I presume the view of the department was that that notation was so flimsy, that segregation was perhaps so inadequate, that they felt the need of promulgating something more substantial, which they put up to the power people in the way of a contract more substantial. Is that it?

Mr. MERRILL. It certainly was more substantial.

Mr. RAKER. The first regulations were issued when, Mr. Merrill? Were they issued in 1901 or 1902?

Mr. MERRILL. The first regulations under this act were issued by the Department of the Interior on July 8, 1901.

Mr. RAKER. When were these permits revoked?

Mr. MERRILL. On March 2, 1909.

Mr. RAKER. Was there a new set of regulations promulgated before 1909?

Mr. MERRILL. There were regulations issued in 1908 by the Department of Agriculture, covering applications under the act of 1901 in national forests, and it was under the provisions of those regulations that the new permits were issued.

I wish, Mr. Chairman, to explain this pretty fully, because this matter has been brought up times without number without a reasonable explanation of the original conditions or of the subsequent action of the department. Whatever may be said about any revocation made at that time, the action has not been repeated, and it has been the fixed policy of the department ever since I have known anything about its work to insist upon the integrity of its permits. We have permits now outstanding which provide for no regulation and no charge at all, and they will stand so long as the permittees care to hold them.

Continuing what I had started to say with respect to the department's policy concerning water power. In the administration of water power the department has required:

First. That the applicant make a showing in the form of maps and plans of the extent and character of the proposed development.

Second. That power sites shall not be held without use, but that construction shall begin within a reasonable time and be prosecuted with reasonable diligence, and that the plant be operated continuously after completion.

Third. That the permittee pay a small annual rental which is no more than sufficient to pay a reasonable share of the cost of administration of the national forest. This rental is determined in advance and, except for the possibility of readjustment every 10 years, is fixed for the life of the permit. It is not necessary to call upon the permittee for information annually, but both the Government and the permittee know what the amount of the rental will be for years in advance.

The CHAIRMAN. Of course, that means readjustment of the rates does it not?

Mr. MERRILL. Readjustment of rates of rental.

The CHAIRMAN. So it would mean that that lease is for a 10-year term, would it not?

Mr. MERRILL. Yes. I will discuss that in a moment.

The CHAIRMAN. Very well.

Mr. MERRILL. Fourth. That the permittee protect telephone and telegraph lines when crossed by his power transmission lines; that he clear the lands occupied; that he dispose of brush and refuse, that he rebuild or repair roads and trails which are destroyed or injured, and that he furnish assistance in fire fighting.

Fifth. That the permittee pay for timber cut or destroyed, and for damage to lands or other property of the United States; that he agree to indemnify the United States against any liability for damages on account of the occupancy of the public lands; and that he will not discriminate against the United States in the sale of power generated under permit.

Sixth. That the permittee will abide by reasonable local regulation of rates and of service; that he will not attempt to put any valuation upon his permit in any proceedings for fixing rates or service; and that upon receipt of fair remuneration he will transfer his permit and the properties upon the public lands to any municipality which the Secretary may designate, provided such municipality has the right to condemn his properties and the desire to do so.

The department further reserves the right—

One. To require the permittee to install meters for measuring the current generated or water used, to open his books for inspection, to establish an approved system of accounting, and to make annual reports of his water-power business.

Two. In the absence of local regulation and upon demand by the customers of the permittee to fix the prices at which power may be sold and the character of the service which must be rendered. This will be done, however, only after a full examination and hearing.

The CHAIRMAN. That last, of course, is a pretty vague provision for the permittee. I suppose they will object to that.

Mr. MERRILL. No; they do not.

The CHAIRMAN. Have they not?

Mr. MERRILL. It may be strange to say, but they have not.

The CHAIRMAN. I, personally, would.

Mr. MERRILL. I have stated to you the general requirements that are imposed now under permits issued by the departments, in order that you may understand the manner in which and the degree to which these matters have been developed, even under the present legislation, and how the main features contained in the bill now before you have been worked out to a considerable degree in the handling of water powers under the present law.

I shall speak briefly now concerning the amount of water power in the United States.

Mr. RAKER. Before you go on with that, there is one question I would ask you: In addition to the regulation, in most instances you require them to maintain and keep up weirs for measurement of water?

Mr. MERRILL. That is not a universal requirement; it is one that the Secretary may impose, if we need the records.

Mr. RAKER. Does not that apply to all?

Mr. MERRILL. It is not what you might call a mandatory provision, because the permits read that the Secretary may do so or not according to circumstances. It was drawn in that form so that it might not be necessary to require weirs where the expense of installation would be more than the importance of the records would warrant.

Various estimates have been made of the amount of developed and undeveloped water power in the United States, as you have heard in this hearing. The total has been variously stated by different estimators from 20,000,000 to 200,000,000 horsepower. Of course, the 20,000,000 estimate was made by men who are very conservative, and the 200,000,000, by men who are very optimistic. My own judgment will agree closely with the figures given to you by Mr. Stillwell. He stated about 35,000,000. The figures which I had prepared for submission in this hearing total 28,000,000. Whether the total is that or some other figure depends upon whether you consider the power that could be developed at the present time in the present state of the industry, or whether you consider some problematical amount at some distant future under conditions that do not obtain at the present time.

The CHAIRMAN. Mr. Stiltwell is an engineer of pretty wide experience?

Mr. MERRILL. Mr. Stillwell is, and I would say, parenthetically, that I would subscribe to 99 per cent of what he said.

The CHAIRMAN. He made a very good impression upon me.

Mr. MERRILL. Yes, he is an able engineer and has had a large experience.

The distribution which I have prepared upon the basis of 28,000,000 horsepower is approximately as follows:

The North Atlantic States, 2,200,000 horsepower, or 7.9 per cent of the total.

The South Atlantic States, 2,300,000 horsepower, or 8.2 per cent.

The North Central States, 1,700,000 horsepower, or 6 per cent.

The South Central States, 1,500,000 horsepower, or 5.3 per cent.

The Western States, 20,400,000 horsepower, or 72.6 per cent.

Whatever we may take as a total, whether it be the 28,000,000 or whether it be 200,000,000, the distribution ill be closely in those percentages.

Mr. KENT. That includes the navigable waterways?

Mr. MERRILL. Yes.

There are national forests which contain water-power sites in each of the Western States, and also in Arkansas, Minnesota, and South Dakota. The three States named are estimated to contain about 400,000 horsepower, making a total for the entire group of 20,800,000 horsepower, or 74 per cent of the total water power of the United States. The estimated total within the national forests themselves in this group of States is 11,700,000 horsepower, or 56 per cent of the total within the group, and 42 per cent of the total within the United States.

Since the year 1890, when the first plant was built, up to the present time development has gone along rapidly, and there has been consid-

erable consolidation of water power. This may be said irrespective of what we consider the tendency or the result of such consolidation will be. Three elements have entered into this consolidation, or there are three means by which it has been effected. These are control of the power sites; control of the markets; and control of the sources of credit.

There is too much water power in the Western States for anyone concern to secure a monopoly by control of the sites themselves. The most fruitful means of securing control is to secure control of the market.

The CHAIRMAN. That is by franchise?

Mr. MERRILL. No, only by means of franchises, but by having such a grip on the market that nobody else can get in as a business proposition.

The CHAIRMAN. But it could be done by means of the franchise?

Mr. MERRILL. No, this is even assuming that a competitor could get a franchise; that there will be no question about the franchise. It would be my judgment, for example, that with anything less than $10,000,000 to $20,000,000 to start with it would be as impossible to break into the San Francisco market, now controlled by the Pacific Gas & Electric Co., as to grow bananas in the Klondike.

The CHAIRMAN. Will not the Hetch Hetchy project enable the people of San Francisco to compete with that company, with the power that they can get there?

Mr. MERRILL. That will enable them to do it, but it can not be done by private capital.

Mr. KENT. Is it not reasonable and necessary that there should be a monopoly, and is there any possible economy that would result from a duplication of plants and therefore a duplication of cost of service?

Mr. MERRILL. I was merely discussing the fact and not its results, Mr. Kent, at the present time.

Whether or not consolidation is advisable, it is my opinion, judging from the experience that I have had, and from the things that I have both heard and seen, that if there is to be any water power consolidation of consequence, any dangerous water power combination, that it will be brought about through the control of the sources of credit rather than through any other means.

You were given instances this morning by Dr. Smith of the practical impossibility of securing from financial houses moneys for investment in competing electrical concerns. That is only natural. If I have an investment of $100,000 in a power plant in any locality, I am not going to loan another $100,000 to somebody else in order to enable him to go in and put my first $100,000 out of business.

I have had prepared in my office this winter the diagram shown at the far end of the table. On the left-hand side of the diagram are shown the connections between the several holding companies in the United States and each other. On the right-hand side of the diagram are shown the connections between the holding companies and the operating companies. Each line in that diagram means one director, except that on the left-hand side of the diagram where are shown the holding companies there are twice as many lines as there are directors, because there is a line from right to left and a similar line from left to right.

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I submit this as simply showing what has been and what is being done.

The CHAIRMAN. Is that a print? Is that made from a plate, or is that a drawing?

Mr. MERRILL. That is the original, Mr. Chairman.

The CHAIRMAN. Has there been any plate made of it?

Mr. MERRILL. Yes, sir; there is a plate.

The CHAIRMAN. Unless there is objection let the record show that that is admitted. That diagram is entitled "Interconnecting Directorates—Electric Power Companies."

Mr. GRAHAM. Have you any other explanation than you have now given to go with the plate?

EXPLANATION OF DIAGRAM "INTERCONNECTING DIRECTORATES—ELECTRIC POWER COMPANIES."

Mr. MERRILL. The columns at the left and center of the diagram include the names of holding companies of electrical securities. The names in the right-hand column are those of operating hydroelectric companies. Each line from holding company to holding company or from holding company to operating company represents one common director in the two companies. As the center and left-hand columns are both for holding companies, the number of lines at the left of the diagram represents twice the number of directors, and the diagram is symmetrical. To some extent the number of lines between companies represents the intensity of relationship. It should be noted, however, that in a few cases the names of the operating and the holding company are the same. This diagram was prepared for use of Moody's Corporation Manual for 1913.

I also have here, Mr. Chairman, some information that you may desire or that you may not desire. It consists of a table showing the amount of concentration, by States, in eight Western States, and certain other tabulations about some 16 of the holding companies listed on the larger diagram, showing the companies which have been absorbed into the consolidations, the amount of power controlled, the securities issued, etc.

The CHAIRMAN. Unless there is objection the committee would rejoice to have that in the record.

(The papers referred to will be found as Exhibit R in the appendix.)

Mr. MERRILL. I wish to add this, that these tabulations are the latest information that the Government has with respect to water-power consolidation. This information has been brought up to October, 1913, while the information compiled by the Bureau of Corporations was published in March, 1912.

The CHAIRMAN. Will you please state just exactly what that does show; in other words, it shows first, I presume, the names of the companies; second, the capitalization. Is that what it shows?

Mr. MERRILL. They show first the names of the companies which have entered into the consolidation. They show, in many instances, the population of the territories served. They show, in practically all instances, the capitalization of the constituent companies and the capitalization of the consolidation. They show also the amount of development made by the constituent companies and the total of the consolidation.

Mr. KENT. Would it further go to prove that the financial backing of these corporations is of such a nature as to insist upon unreasonable terms toward the public? In other words, would it show that the person who accepted a permit like the Pend Oreille permit, which was not considered good policy by the other water companies, that such a permittee would have trouble in financing it?

Mr. MERRILL. I have never thought of that matter, Mr. Kent. But I have heard of attempts being made to prevent development in competition with existing operating companies. The proposed development was unable to secure capital because the bankers to whom application was made had investments in the operating company.

Now, whether that is a natural and certain consequence of consolidation I do not need to discuss, Mr. Chairman. In relation to this I just simply present to you the facts for you to reach such a conclusion as you wish.

Mr. RAKER. Your plat shows the location of each of these, too?

Mr. MERRILL. Yes. I wish to add one thing further in relation to this, and in relation to that diagram, that in both cases the information was taken from official reports in Moody's Manual of Corporations, which is the official corporation manual of the United States. There is no other public source of equal reliability from which the information can be had.

Mr. Chairman, a great deal of information has been presented by various people before this commission with respect to comparative costs of water-power development in the United States and abroad and very much has been made of certain so-called information presented in a report by Mr. Norton, if I recollect, of the Department of Commerce and Labor, in his report, "Utilization of Atmospheric Nitrogen." Manifestly the man who wrote it did not appreciate the figures that he presented on cost of power production.

Without doubt there are power plants abroad, on the Norwegian coast, in Iceland, and elsewhere that can be developed at a less cost than any sites in the United States, and for two reasons, first, because of their physical location, and, second, because of the cheaper costs of labor and of machinery.

Mr. GRAHAM. Just a word, if you please. When you say cheaper cost of labor do you refer to the per diem wage or do you refer to the unit of work done?

Mr. MERRILL. I think that would hold true, Mr. Graham, of the unit of work done.

Mr. GRAHAM. You do not think that they could have dug the Panama Canal cheaper in Norway, do you, although they may have gotten men to work at less per day in the doing of it?

Mr. MERRILL. There is this to be considered, Mr. Graham, when you are talking of the costs of hydroelectric power production, that a certain number of men must be employed to run a plant, whether they be efficient or inefficient. It may take 10 men, for example, to run a plant, when 5 men could perform the actual labor involved, because you have to have men located in many parts of the building prepared to act immediately in case of emergency. Hence it may be and probably is cheaper, as a mere matter of the item of labor, to operate abroad than here. I do not know whether I make myself understood. In any event, I do not believe that the difference in labor cost is very

material. There is, if my information is correct, considerable difference in the cost of hydraulic and electrical machinery and similar items. But even conceding all this, I wish to call the committee's attention to the fact that when these witnesses have drawn these comparisons they have compared the best in Europe with the worst in the United States, or else that they have compared operating costs there with total costs here. They have also compared operating costs under certain conditions abroad with operating costs under entirely different conditions here. You can get any results you desire from the same figures if you handle them as you please.

Mr. Leighton, in his testimony before the committee, quoting from this report of Mr. Norton's, stated that water powers could be developed in one instance for 48 cents and another for 37 cents per horsepower per year. The figures for the Trollhatten-Copenhagen development show a cost for machinery alone, generators, water wheels, transformers, etc., of $10.50 per horsepower, the interest on which alone at 6 per cent is 63 cents per horsepower per year. You would have about 30 cents less than nothing to operate your plant with, to maintain your plant and to pay the interest on the cost of the power house, the conduits, the reservoir, etc., upon the basis of the figures quoted by Mr. Leighton. Such figures are nothing less than absurd.

Similar considerations hold true with respect to the statements concerning other powers developed at around $2 and $3 per horsepower per year. It is barely possible that those figures may be reached, all the factors being taken into consideration, but it is not a fair statement to compare, even under those circumstances, the cost of power developed and used directly at the site with the cost of power transmitted 200 miles, because the big element of cost in the latter condition is the cost of transmission.

Mr. RAKER. I would like to ask a question there. I do not know whether it is applicable or not, but I want to ask it if the chairman has no objection.

The CHAIRMAN. Certainly not.

Mr. RAKER. Where is the most of the machinery and appliances made that are used in power plants?

Mr. MERRILL. In this country.

Mr. RAKER. They are made in this country?

Mr. MERRILL. They are made here in the United States. They are largely made here by the General Electric Co., the Westinghouse Co., and the Allis-Chalmers Co.

Mr. RAKER. There are a lot of companies that manufacture the same kind of machinery and appliances in foreign countries?

Mr. MERRILL. Yes.

Mr. RAKER. What I want to get is whether any of the machinery goes abroad?

Mr. MERRILL. I can not tell you.

Mr. RAKER. So you do not know anything about the cost of machinery in Denmark as compared with the cost of machinery here?

Mr. MERRILL. My impression is that these figures of $10.50 per horsepower in Denmark would probably have to be raised 50 to 75 per cent for this country.

Mr. RAKER. Is our machinery—machinery that is made here—used in these hydroelectric plants?

Mr. MERRILL. I know that some of it is; but I believe most of it has come from the other side.

Mr. RAKER. In other words, we ought to be manufacturing cheaper here; that is, manufacturing electrical energy cheaper in the United States if we make all our machinery here, rather than the States and countries that have to import our machinery, ought we not?

Mr. MERRILL. We ought to, if the cost of transportation is not considered.

Mr. KENT. Don't we dump our machinery in foreign countries, and charge more to our own people than we do to the foreign countries?

Mr. MERRILL. Following the analogy of the steel business I presume we do, Mr. Kent.

Mr. KENT. In the manufacture of this machinery, as I understand, there are certain elements of metal that are equal everywhere, copper and other things, and the element of labor would not overcome the cheapened matter here; and probably our excessive cost of machinery is owing to trust conditions between the electric manufacturers.

Mr. PIERCE. I would like to say that in France the Westinghouse Co. have their own plant and the General Electric Co. have their own plant in England, and they manufacture machinery over there in those countries, instead of making it here and shipping it over.

Mr. KENT. They manufacture over there, and probably they get their machinery cheaper than we get it here.

Mr. MERRILL. I ought to add this also, that the report from which those figures are quoted states that the instances where power development is made so cheap are isolated. There are, however, a few of them. The general rate for power, if I recollect the figure quoted, is from $10 to $15 per horsepower. So in that respect also we are comparing an extraordinary condition abroad with ordinary conditions in this country when we compare those figures.

Mr. RAKER. Then the monopolistic features of the manufacture of these electrical supplies, a great part of that is due to the high cost of the electrical power that is to be furnished?

Mr. MERRILL. Yes. My point is this, Mr. Chairman, that though there may be and probably is a different cost of power under similar conditions in the two countries, that there does not begin to be the difference that certain persons testifying before this committee wished to lead you to suppose. The statement was also made that power in this country cost, to develop, approximately $20 a horsepower. The statement was afterwards modified to make it stand as the average cost, and it was admitted that power could be produced more cheaply than $20 under certain conditions.

Mr. KENT. What do you mean by that, the original installation per horsepower?

Mr. MERRILL. No, the annual cost.

Mr. KENT. The annual cost, including the interest on the installation?

Mr. MERRILL. Including the operation expenses—labor and materials—interest on the investment, depreciation reserve, administration expenses, and maintenance of property.

Mr. KENT. What do you figure the cost of installation, on the average?

Mr. MERRILL. In this country?

Mr. KENT. Yes.

Mr. MERRILL. That is a very variable figure; I think if I were going to make an off-hand guess, I would say $100 per horsepower.

Mr. KENT. Six per cent on that would be $6 per year.

Mr. MERRILL. Yes, sir; $6. Of course in many cases it is less, and in some cases it is more.

Mr. KENT. You are talking about an average?

Mr. MERRILL. Yes; and when you take into consideration the cost of long-distance transmission systems, you are adding a very considerable element of cost.

Mr. KENT. That is another matter; that is a matter of transportation.

Mr. MERRILL. It is for that purpose that I wish to give you the total capital cost per horsepower for this proposed Sweden-Denmark development. The machinery and generating plant, transmission system of 204 miles, transformer station, frequency converter station, and an additional item for incidentals, make a total of $74 per horsepower, and that does not include the cost of the power house or the hydraulic part of the development.

Mr. KENT. What would you add to that cost approximately, put it up to $100?

Mr. MERRILL. That is something you can not tell unless you know the conditions.

Mr. KENT. You can guess; would it put it up to $100?

Mr. MERRILL. It would probably do so.

Mr. GRAHAM. How do they develop hydroelectric power in Denmark. I had the impression there was not a mountain in that country.

Mr. MERRILL. This is for development in Sweden with transmission into Denmark. These are estimates of the Government engineers. The proposition in this case was to transmit electric power under the straits by submarine cable.

I also have before me some figures published in the Journal of Electricity, Power, and Gas of San Francisco, concerning the cost of development of power by the Pacific Light & Power Corporation of Southern California. For the 11 months ending November 30, 1911, the cost was $3.72 for production and 28 cents for maintenance, making a total of $4 per thousand kilowatt hours at the Redondo steam plant.

Mr. RAKER. How much per horsepower would that be?

Mr. MERRILL. That is equal to $26 a horsepower a year, or four-tenths of a cent per kilowatt hour.

Mr. RAKER. At what are they selling it to their customers?

Mr. MERRILL. They are selling their power down there from three-fourths of a cent up per kilowatt hour.

Mr. RAKER. That is hard figuring for me. What is that a horsepower?

Mr. MERRILL. That is about $50 a horsepower and up, but measured, mind you, on a 24-hour continuous use, which is an altogether different thing from that $50 a horsepower that they spoke about the other day for pumping water in the San Joaquin Valley.

Mr. RAKER. How many kilowatts does it take to make a horsepower? Let that go in right there.

Mr. MERRILL. A kilowatt is 1⅓ horsepower. A horsepower is three-fourths of a kilowatt.

The CHAIRMAN. What do you mean when you say a kilowatt hour?

Mr. MERRILL. It means the energy of one kilowatt acting for a period of one hour.

Mr. KENT. What will a kilowatt do, in terms of electric light, for instance?

Mr. MERRILL. One of these lamps such as are in this room, if it were a Mazda of about 25 candlepower, would take about 25 to 30 watts to run it for an hour.

Mr. KENT. That is twenty-five thousandths.

Mr. MERRILL. Twenty-five thousandths of a kilowatt hour.

Mr. KENT. That would be one-fortieth. In other words, a kilowatt would run 40 twenty-five candlepower lights for an hour; is that the idea?

The CHAIRMAN. What candlepower are these lamps? I do not know. I presume they are high candlepower.

Mr. KENT. The ordinary candlepower lamp of commerce is 16.

Mr. MERRILL. A carbon lamp of 16 candlepower takes about 50 to 55 watts.

The CHAIRMAN. Coming back to some form of electrical measure that we understand, I take it, in a word, it costs about $25 a horsepower to produce it, and they sell it for about $50. Is that right?

Mr. MERRILL. $50 is about the minimum.

The CHAIRMAN. That is the minimum?

Mr. MERRILL. Yes.

The CHAIRMAN. And is $26 the exact amount it costs them?

Mr. MERRILL. That $26 is the exact amount, according to these figures, for 11 months, for the development of steam power.

The CHAIRMAN. Twenty-six dollars for 11 months?

Mr. MERRILL. No. $26 a year—at the rate of $26 a year, for 11 months.

The CHAIRMAN. Figured for 11 months?

Mr. MORRILL. Yes.

Mr. RAKER. Do they dispose of their power in something like this fashion, it costs them about $26 per horsepower for a day of 24 hours; now do they let a man have the horsepower for a half-day and another one for another half-day. I mean the method of distribution, and then charge them both practically what would be a horsepower for the whole day?

Mr. MERRILL. As a usual thing, Judge, our power is sold on meters, just the same as you buy gas, by meter, and it is measured by kilowatt hours, and you pay for what you get.

The CHAIRMAN. So there is no duplication there.

Mr. MERRILL. There is no duplication on a meter basis, for you pay for just what you receive, but there is very likely to be duplication on a flat rate basis, because you pay, not for what you actually take, but for the maximum amount you may need at what is known as "peak." For example, referring for a moment to those San Joaquin Valley pumping prices of $50 per horsepower per year. That means, that if a man has a 10 horsepower motor he pays $500 a year for the current that he takes. He probably runs his pump not more than half the time each day for some six months in the year.

If so, and assuming that his motor runs full capacity for an average of 12 hours a day for 6 months, he would actually use 2½ horsepower years of electric energy. That is, if his current were measured by meter he would actually be using an average of 2½ horsepower with a 10 horsepower motor. He pays $500 for the year. Although he pays but $50 a year for each horsepower of capacity of his motor, he pays $200 per year for each horsepower of energy that is actually delivered to him. It is because of this situation that a company may sell more power than it generates. One concern in the San Joaquin Valley, engaged mainly in supplying power for irrigation and pumping, and which offers this flat rate of $50 per horsepower per year, sells approximately four times as much as it generates; that is, its "connected load" upon which its charges are based is four times as great as its average power delivery. Costs per horsepower per year mean very little, unless they are accompanied by a statement of the other conditions of the contract. It may safely be assumed in all cases in which power costs are quoted at $50 per horsepower or under that the basis of charge is the maximum demand and not the actual amount of power used, unless, possibly, it may be a combination of these two bases.

Mr. BAKER. That is the reason I was asking, if there was that danger of duplicating, and then charging the consumer that extra price.

The CHAIRMAN. The costs that you gave us just now were not attempting to be exact. Where it costs about $26 per horsepower, and it is sold for $50, say, is that a fairly good example of what it costs to produce water power?

Mr. MERRILL. The figures are for power, not water power.

The CHAIRMAN. Oh, I beg your pardon.

Mr. MERRILL. And this is steam power generated in the Redondo steam plant, which for some years after it was built had the name of being the most efficient central steam station in the United States.

The CHAIRMAN. Have you concrete costs of water power?

Mr. MERRILL. Yes, I have right here, but first in comparing that figure of $26 per horsepower a year, to show whether or not it is a fair cost, I will quote from the figures of the 1911 report of the Public Utilities Commission of New York City, which gives the net production cost per kilowatt hour of the power generated by the three largest electric lighting companies in the city, and the average for all companies. The average for all companies is six-tenths of a cent a kilowatt hour, which is $39 a horsepower, on the 24-hour basis. The lowest figure is that produced by the New York Edison Co., which is 5½ mills per kilowatt hour, which is approximately $36 a horsepower a year. So that these figures which I have quoted to you as representing the cost of steam power upon the Pacific coast and in this particular steam plant, are extremely low. They are practically 75 per cent of the cost of the development of steam for the New York Edison Co. in its plants, which are situated at tide water in New York Harbor.

Mr. KENT. What is the price of coal?

Mr. MERRILL. I can not tell you, Mr. Kent, what the price of coal is, I do not know that it is given here.

Mr. KENT. It would be small, around $3.50.

Mr. MERRILL. I do not believe it would be above that for steam coal.

Mr. THOMSON. You mean for the development of electricity, not the development of steam? You said a moment ago the development of steam. You mean the development of electricity by a steam plant?

Mr. MERRILL. Yes. That is what I meant.

Mr. RAKER. This plant you referred to in connection with the $26 per horsepower was at Redondo, Cal.?

Mr. MERRILL. Redondo, and the low cost is due to three factors. First, it was extremely well built. Second, it has extremely low-priced fuel; third, a factor that an engineer will appreciate, anyway, it is situated on tidewater, and it takes its circulating water for cooling its engines and producing its vacuum directly from the ocean, giving it a degree of efficiency that you can not possibly reach by artificially cooling the circulating water.

Mr. JOHNSON. Do they use salt water in the cooling?

Mr. MERRILL. Yes. Since the Redondo plant was built, the Southern California Edison Co. has put in at Long Beach a turbine plant, which is reported to be able to turn out power at a considerably less figure than at Redondo. I have not the figures, however. Now, comparing the costs of steam-electric power with the costs of hydroelectric power as delivered from the Kern River plant of the company, at Borel, a distance of approximately 100 miles, and during that same period we find that the costs for hydroelectric power were 33 cents for production and 58 cents for maintenance; a total of 91 cents per thousand kilowatt hours, or $6 per horsepower. That is the production cost at the station. The transmission cost from the plant at Borel to Los Angeles was 37 cents per 1,000 kilowatt hours, or $2.40 per horsepower; and from all the hydroelectric stations an average of 30 cents, or $2 per horsepower.

Mr. KENT. What would that make the average horsepower cost?

Mr. MERRILL. That means that the cost of transmission was $2.40 per horsepower per year, which, added to the preceding figure of $6 for production at the plant means a total cost of power delivered of $8.40 per horsepower by water compared with $26 per horsepower at the Redondo Steam Plant.

Mr. KENT. With the cheapest fuel, which is crude oil?

Mr. MERRILL. Crude oil.

Mr. RAKER. These people sell their power for 24 hours a day, as they do with the Redondo plant?

Mr. MERRILL. Yes, sir; they are on the same system, and owned by the same concern.

Mr. KENT. That is where Mr. Fisher's suggestion would apply, that taxation would take up the slack.

The CHAIRMAN. Let me see if I understand this. The statement was that at the Redondo Steam Plant it cost $26 to produce power by steam.

Mr. MERRILL. Yes.

The CHAIRMAN. They sell it for $50 or more per horsepower. Now they have another plant, an auxiliary plant for production by water, with steam at Redondo?

Mr. MERRILL. They have several of them.

The CHAIRMAN. Now the average cost of power produced by those several plants that work in conjunction with the steam plant is how much, did you say, $8.40?

Mr. MERRILL. No, for this one plant only. They have two or three other plants that can not turn out power as cheaply, but I am comparing costs at the largest waterpower plant that they have with the costs at the largest steam plant they have. These plants have approximately the same capacity, about 20,000 kilowatts each.

The CHAIRMAN. And one can be produced for about $8 and one for about $26?

Mr. MERRILL. And one for $26. Those are the figures as published.

The CHAIRMAN. Is that a fair comparison generally in the difference in cost of production by steam and by water?

Mr. MERRILL. I can not say, Mr. Chairman, how that would be.

The CHAIRMAN. I wondered if that would be a fairly decent example.

Mr. MERRILL. Yes, sir; as good an example as I can get actual figures for, because the plants are of the same size. The steam plant is considered one of the most efficient steam plants on the Pacific Coast. The hydroelectric plant is also an efficient plant, although it is not a modern one. It was built several years ago. The figures probably furnish a fair comparison under ordinary circumstances of the costs of electric power in steam plants and in water plants.

Mr. DENT. Do you understand that this steam is produced as cheaply as it could be produced under the cheapest coal by this crude petroleum? For instance, in Illinois, Mr. Graham's country, the cost of coal is something like $1.50. Now, is the oil that is used in the production of this steam power as cheap as coal at $1.50 per ton?

Mr. MERRILL. I could not tell you, Mr. Kent, the exact figures, but there are two main items that enter into the cost of operation of a steam plant, these are fuel and labor.

Mr. KENT. There is very little labor with oil, of course.

Mr. MERRILL. On account of the fact that with oil fuel the amount of labor required is a minimum, while with coal fuel several times as many employees will be necessary, operation costs may be in favor of the plant using oil, even through the fuel alone might cost more.

Mr. KENT. The cheaper the coal the larger the element of labor?

Mr. MERRILL. Of course in modern steam plants they use mechanical stokers, but the situation in respect to labor in an oil operated steam plant like the one at Redondo Beach, which is a reciprocating engine plant, and the one at Long Beach, which is a turbine plant, is that the boiler rooms of both plants are almost automatic in their operation. The pressure of oil on the burners, the opening of the drafts, the temperature at which the oil goes to the burners, and the amount of oil, are all automatically operated by the pressure from the steam chest of the turbine in one instance, and of the reciprocating engine in the other. All that the operator has to do is to make occasional adjustments, and he does not have to stand by his boiler all the time as he ordinarily does in a coal operated plant.

Mr. RAKER. How much more would the coal operated plant add, so far as labor is concerned?

Mr. MERRILL. That, Judge, will depend upon how much coal is handled and whether or not automatic stokers are used.

Mr. RAKER. Are not the newest and most modern plants operated a great deal by automatic devices?

Mr. MERRILL. They have automatic stokers, but it is not possible to have so many automatic arrangements, for variations in steam pressure at the burners, variations in draft, etc., in a plant using coal, as in a plant using oil.

Mr. RAKER. They can not produce a horsepower for $8 per day of 24 hours. Have they any other water plant attached to this system?

Mr. MERRILL. They have several water plants.

Mr. RAKER. Have you figured up a general estimate of all the water plants in order to find what the average cost is?

Mr. MERRILL. No, Judge, that is for this one plant only. The other water plants must certainly cost more, because they are old plants, built years ago.

Mr. RAKER. This $8, does that include all the overhead charges and interest, and such as that?

Mr. MERRILL. So far as I can tell from the statement, it does.

Mr. RAKER. Then the difference between the $50 and the $8 would be velvet to these people?

Mr. KENT. $26 and $8?

Mr. RAKER. No, I am talking now about the $8 plant, the water power plant.

Mr. KENT. Talking about the $8 water-power plant and the $26 coal plant; it is $8 and $26.

Mr. RAKER. He sells the horsepower 24 hours for $50. That $42 is practically velvet?

Mr. MERRILL. There must be a correction there. These are figures of cost of power at the switchboard, or the costs of the amount of power generated.

Mr. RAKER. Take all you can out of that $50. When he sells it for $50 the first cost is about $8; show just what is velvet for these people who are running the business. That is the thing we are after.

Mr. MERRILL. This is what I wish to say: It is possible that the figures of cost that are given here are the cost of the power generated; if so, from 15 to 20 per cent of the power generated at the power plant will be lost before it gets to the consumer. Assuming 15 per cent, the figure of $8.40 must be divided by eighty-five hundredth, giving approximately $10 per horsepower as the cost of the power actually delivered and sold. I am giving these figures the advantage of that transmission loss, but I do not know whether the quantities here are measured at the plant or measured at the selling end.

Mr. RAKER. That gives $10; now go on down, give them all.

Mr. KENT. Does that $10 include interest on installation?

Mr. MERRILL. As far as I can judge from the figures it does.

Mr. RAKER. Take any other cost he has outside of this before he sells it. Does this include now the collection and distribution cost at the place of distribution?

Mr. MERRILL. I do not think so, Mr. Raker.

Mr. RAKER. What do you think that would be?

Mr. MERRILL. That is something I can not say. My object in presenting these figures is to make a comparison on a similar basis of cost of power in steam and in water plants. You wish to know how much power is lost, and every element of cost that they can get in?

Mr. RAKER. That is what I had in mind, giving them 8 per cent interest on the money invested, and then to be generous I would have to give them at least 3 or 4 per cent for risk of business, and then I want to see how much money they are getting clear.

Mr. MERRILL. As far as the figures which I have just given are concerned that can not be told.

Mr. RAKER. Is there any way in which you could get that for the committee?

Mr. MERRILL. I will see if I have anything, Judge.

Mr. RAKER. Take some plants and show to the committee what the man is actually making per horsepower with these plants on public lands and other places, and that gives us something.

Mr. MERRILL. I have some figures here which show distribution of costs among the several elements which I will read presently. I wish to add at this point, with respect to the relative costs of steam and water power, a statement over the signature of John A. Britten, vice president and general manager of the Pacific Gas & Electric Co., in a prospectus issued in 1911. He says: "Notwithstanding the wonderful output of oil from the fields of California, it has not, as a fuel for the generation of power, been able to compete with water-power plants." This prospectus was issued for the use of stockholders and bondholders of the company, and not for the general public.

I will now read an extract from the Electrical World of April 13, 1912, which gives some figures on the cost of power and the distribution of such costs for the Pacific Gas & Electric Co. of San Francisco:

Unit Generating and Distribution Costs of The Pacific Gas & Electric Co. in San Francisco.

Among the arguments submitted by the Pacific Gas & Electric Co. to the Board of Supervisors of the city and county of San Francisco, in connection with the pending regulation of rates for gas and electric energy, are some interesting statistics concerning the unit costs of generation and distribution. About 91 per cent of the generated energy is developed in steam-driven stations and the rest is received by transmission from hydroelectric sources, which are depended upon for emergency standby. The condensed operations for 1911 are given in the accompanying table.

Total production, revenues and costs in San Francisco for 1911.

Kilowatt hours generated by steam		85,707,854
Kilowatt hours received by transmission		7,787,959
Kilowatt hours, total production		93,495,813
Kilowatt hours sold		68,797,090
Per cent lost in distribution		26.5
Revenues from sales		$2,730,248
Cost of generation	$729,315	
Cost of distribution	347,182	
Cost of administration and distribution	943,363	
		2,019,860
Net earnings		$710,388

Unit costs for 1911.

	Cents per kilowatt hour.	
Generation:		
Labor	0.225	
Materials	.731	
Repairs	.104	
		1.060, or 36%
Distribution:		
Labor	.216	
Materials	.098	
Repairs	.191	
		.505, or 17%
Administration:		
Labor	.271	
Materials	.082	
Legal expenses	.021	
Fire insurance	.005	
Bad debts	.026	
Advertising	.008	
Damages to persons	.005	
Rents	.005	
Taxes	.153	
		.576, or 20%
Interest on floating debt		.006, or —%
Depreciation		.789, or 27%
Total		2.936

The average revenue per kilowatt hour for all energy sold was 3.969 cents, and the average total cost was 2.936 cents, including depreciation, leaving a net revenue of 1.033 cents. A valuation of the entire electric properties as of December 31, 1911, by Messrs. J. G. White & Co., with no allowances for stores and supplies, working capital, franchise value or going value, gave a total of $11,152,006, made up as follows: $624,356 for real estate; $3,577,238 for steam generating stations; $1,190,299 for substations; $4,963,522 for the distribution system; $615,450 for electric meters and miscellaneous, and $181,141 for miscellaneous electric properties. On this total valuation the net rate of return in 1911 was 6.4 per cent. The unit costs in detail appear in the table shown herewith.

Next to generation, the largest major item is depreciation the gross amount of which is equal to 4.9 per cent on the valuation stated above. The combined cost of distribution and administration is substantially equal to the cost of generation.

Typical station load curves submitted show that the summer instantaneous peak was 1,619 kilowatts, accompanied by a load factor of 29.1 per cent, while the winter peak was 2,363 kilowatts and the load factor 38.9 per cent. Practically the entire distribution is alternating current.

Present rates in San Francisco range from 9 cents to 3 cents per kilowatt hour, and these extremes apply both to lighting and to motor service. Oil fuel, used exclusively, cost an average of 83 cents per barrel in 1911. Comparisons of these rates with those in 21 of the principal cities of the country were submitted to the board, with the object of showing that San Francisco enjoys rate advantages over many other large municipalities. The company states that the present rate of return on the San Francisco investment is less than 6 per cent.

These figures show that of the total cost 36 per cent is for generation, 17 per cent for distribution, 20 per cent for administration, and 27 per cent for depreciation. The cost of distribution is a little less than 50 per cent of the cost of generation. The combined cost of administration and distribution is 1 per cent in excess of the cost of generation.

Mr. KENT. What is the total cost per kilowatt or per horsepower?

Mr. MERRILL. The total cost is approximately 3 cents per kilowatt hour.

The CHAIRMAN. How much per horsepower does that make now?

Mr. MERRILL. That is approximately $260 per kilowatt.

Mr. KENT. That also includes steam plants, because they can not run their business without boosting steam plants to help them out?

Mr. MERRILL. Yes; 90 per cent of the power is steam generated.

The CHAIRMAN. That shows the cost then $260 to produce the horsepower?

Mr. MERRILL. Yes.

The CHAIRMAN. For 24 hours?

Mr. MERRILL. For 24 hours.

The CHAIRMAN. How much do they get for that product?

Mr. KENT. Excuse me, Mr. Merrill, is $260 per annum the cost per horsepower?

Mr. MERRILL. No, not per horsepower; that is per kilowatt.

Mr. KENT. How much per horsepower?

Mr. MERRILL. That would be about $190 on the basis of 24-hour a day power.

Mr. KENT. I mean per horsepower per annum.

Mr. MERRILL. That is what it is.

Mr. KENT. $190.

Mr. MERRILL. Yes.

Mr. GRAHAM. Running 7 days a week, 24 hours a day?

Mr. MERRILL. Yes.

The CHAIRMAN. How much do they get for that?

Mr. MERRILL. I have that here.

The CHAIRMAN. I did not understand.

Mr. MERRILL. These are the figures that were presented by the Pacific Gas & Electric Co., before the board of supervisors of the city and county of San Francisco.

Mr. KENT. How do they have the gall to put this in as against $25 per horsepower in steam and $8 or $10 per horsepower on water power?

The CHAIRMAN. They are evidently getting their rates fixed on that basis.

Mr. KENT. I know they are getting their rates fixed, but I do not see how they have their nerve to put in such figures.

Mr. MERRILL. I just call your attention here to the fact that these figures on the generation costs are the same thing as the production costs in the New York City figures.

Comparing for a moment the above figures of the Pacific Gas & Electric Co. with the New York Edison Co. for the same period, each on the basis of the power sold, we have the following per horsepower year:

Pacific Gas & Electric: Generation, $68.90; distribution, $32.80; all other expenses, $89.10; or a total of $190.80.

New York Edison: Generation, $40; distribution, $32.50; all other expenses, $70.90, or a total of $143.40.

Now, recalling the figures, which were given for the Redondo steam electric plant and for the Borel hydroelectric plant, if the figures which I quoted refer only to costs of generation, as is quite possible, they should be compared with the generation costs as just given for San Francisco and for New York. That is, the $26 per horsepower at Redondo and the $10 per horsepower at Borel should be compared with $68.90 at San Francisco and with $40 at New York City. Furthermore, the San Francisco and New York figures are on the basis of power sold. If placed on the basis of power generated, the generation costs would be $50.60 and $35.80, respectively. If the Redondo and Borel figures are on the basis of power generated rather than

power sold, they should be compared with the last figures named. Even then a very large margin in favor of water power is shown. I have given these figures of costs in San Francisco and in New York chiefly for the purpose of showing that many other elements than cost of generation enter into the final cost of electric power. A review of these figures will also show how many elements of cost have been omitted in the statements of costs of foreign power which have been presented to this committee. The most favorable statement that can be made concerning those figures is that they represent costs of generation only.

Mr. RAKER. Give us how much they get.

Mr. MERRILL. The present rates in San Francisco vary from 9 cents to 3 cents per kilowatt hour. These extremes apply to lighting and motor service. Oil fuel used exclusively cost an average of 83 cents per barrel in 1911.

The CHAIRMAN. What do they get per horsepower? Can you figure that out?

Mr. MERRILL. I do not catch the figure here right now.

The CHAIRMAN. Roughly, what would that be?

Mr. MERRILL. It runs within a fraction of a cent of 4 cents per kilowatt hour—the average price received.

The CHAIRMAN. And that is how much per horsepower annually?

Mr. MERRILL. On the 24-hour basis it is $260. Now I call your attention to this fact; you can use it for comparison. I am paying here in Washington 10 cents a kilowatt hour for my light, and 10 cents a kilowatt hour is $876 per kilowatt year, or $654 per horsepower year.

Mr. GRAHAM. Right in the shadow of the Capitol!

The CHAIRMAN. What is this $65?

Mr. MERRILL. $65 is the cost of 1 horsepower used continuously at the price of 1 cent per kilowatt per hour.

The CHAIRMAN. For a year?

Mr. MERRILL. Yes. It is 1 cent per kilowatt for continuous use 24 hours in the day.

The CHAIRMAN. What I am trying to get at is, a moment ago, answering Judge Raker's question, I understood you to say that this California corporation, making a showing before the rate-fixing body there, disclosed the fact that it cost $190 a horsepower to produce and distribute electricity.

Mr. MERRILL. And collect and everything.

The CHAIRMAN. I understand; now, you said that they can sell that for $65.

Mr. MERRILL. No; you misunderstand me—for $260.

The CHAIRMAN. The correct statement of it is, bluntly, for a man who is not trying to follow all the details of this, that it cost $190 per horsepower to produce the energy, and that the rate that now prevails in San Francisco, for which they sell this identical power, is $260 per horsepower, the profit being, according to figures here produced, $70 per horsepower per year, that being the difference between the cost price of production and the selling price. Am I right?

Mr. MERRILL. That is right.

Mr. KENT. I want to make a statement. I have three flat buildings in Chicago that are handled by one steam plant, three corners, and I manufacture and give my tenants free light. I pay $3 to $3.50

for coal, and it costs me a half cent a kilowatt hour, after hauling the coal, putting it into a little furnace, and furnishing my tenants with that, it costs me just about one-half cent a kilowatt hour, and these people here are talking about a cent.

The CHAIRMAN. Four cents.

Mr. KENT. They are talking about a cost of a cent, and there they putting their profit on top, which shows their statement is absolutely rotten, paying a lot of dividends out of watered stocks and so on.

Mr. MERRILL. We will have to take up a rather technical subject and one which is hard to explain to people who are not familiar with the terms, but I do not want the committee to get a wrong impression with respect to these figures here. These figures show what the cost and what the sale price would be if the plant were running all the year through, all the time, at the same output. They are not doing anything of the kind.

Mr. RAKER. What is the average time that they run, as a general thing?

Mr. MERRILL. That brings me to the item that we engineers call the "load factor," which is the ratio between the average amount of power that a plant turns out and the maximum demand upon it at any time. There are several load factors, according to the period of time for which you consider them. If you compare the average output in any one day with the maximum during that day, it is called a daily load factor. The Pacific Gas & Electric Co., I was told by their engineer a year or two ago, was able to maintain on the entire system approximately a 70 per cent load factor, although the statement which we have just been using says 30 to 39 per cent. A 70 per cent load factor means that if a plant is called upon during the day to deliver power up to a certain maximum, some other time during the day it may deliver half of this maximum, or even less, so that the average for the day is 70 per cent of the maximum. Now if you compare the average amount turned out in a year with the maximum demand at any time through that year, you get what s called an annual load factor, which is considerably lower. I do not; know what the figure is for the Pacific Gas & Electric Co., probab ly, I would guess off hand, around 45 per cent. Now as a matter of revenue to the company and as a matter of cost in production of power, operation on a 45 per cent load factor means that it costs approximately twice as much to produce power as if the plant were operating on what is called a 100 per cent load factor.

Mr. RAKER. Do I understand you to mean that they have to keep their plant double the capacity to furnish the consumption that is actually used?

Mr. MERRILL. That is precisely what it means.

Mr. RAKER. And what they pay for?

Mr. MERRILL. It must be remembered that a power plant is turning out a service and not a commodity, and the plant must stand ready at any time to meet any demand upon it; and it must have enough machinery to meet the maximum demand. It can only earn revenue on the average demand, because the average demand is what it sells.

Mr. RAKER. If it does not have a sufficient plant to supply the full demand, then it can not do business.

Mr. MERRILL. Then somebody does not get served.

The CHAIRMAN. May I interrupt just enough to find out how these figures were arrived at? In other words, the $190, which was the assumed cost of production, and the $260 which was the assumed cost of selling, how many days were calculated upon or used in the method of calculating to arrive at this?

Mr. MERRILL. The whole year 1911.

The CHAIRMAN. The whole year of 1911 disclosed those figures, did it?

Mr. MERRILL. Yes. Those are the figures presented by the corporation. I might add that the figures show——

The CHAIRMAN. Why was it necessary for you then to supplement the last statement with these figures, if that was taken for an entire year, the exact cost and the exact price for which the commodity was sold—why the necessity to supplement your statement there as you did?

Mr. MERRILL. Simply for the reason that I wanted to compare on the basis of continuous use. Now, had that plant been able to deliver power at the same rate all the year through, it possibly would not have cost it a dollar more.

Mr. RAKER. Could it have sold as much again of power?

Mr. MERRILL. It could have sold twice as much power without increasing the cost.

The CHAIRMAN. Then the profits would have been doubled would they not?

Mr. MERRILL. If sold at the same figure.

Mr. GRAHAM. Coming back to the load factor, what are the elements of loss when they are running at a lower rate, are they mostly wages?

Mr. MERRILL. It is not so much, Mr. Graham, what you lose, as what you are not able to get.

Mr. GRAHAM. If they are running at fullhead, say 100, there is no loss, but if they are running at only half that, or 50, they have to have the same force?

Mr. MERRILL. Approximately the same force, there is no appreciable difference.

Mr. GRAHAM. Of course they are not using as much coal for steam, there is not all the loss there.

Mr. MERRILL. No.

Mr. GRAHAM. Would there be any great difference in the wage cost at the 100 per cent production and the 50 per cent production of the energy?

Mr. MERRILL. I should say not more than 2 or 3 per cent, not enough to be appreciable.

Mr. GRAHAM. It would be largely a question as to the speed at which the machinery was working?

Mr. MERRILL. No, it is not a question of speed, it is of how many machines are in operation.

The CHAIRMAN. Let me ask about this question just a moment, elementary though it be. I understand that they have not proceeded very far with any invention which is able to store this commodity?

Mr. MERRILL. No.

The CHAIRMAN. It would be one of service rather than a commodity. Of course they do have storage batteries that will hold it for a while.

Mr. MERRILL. Yes, but they are extremely expensive.

The CHAIRMAN. Too expensive to be of much service?

Mr. MERRILL. They are not economical except in very small units, and for very inconsequential uses.

The CHAIRMAN. The situation is it is going to be very very difficult ever to store it economically.

Mr. MERRILL. Practically the only way you can store energy in a hydroelectric plant is, not to store it after it is generated, but before it is generated, by storing the water.

Mr. SINNOTT. The figures you gave on which they were furnishing horsepower in San Francisco, $100 to $200, what was it?

Mr. MERRILL. I wish to be understood that those figures that I gave are merely the horsepower equivalent on a 24-hour basis of the price per kilowatt hour. I have reduced all costs and prices that I have given to this basis, for purposes of comparison with each other, and also in order that you may have figures on which to base an opinion as to a reasonable rental charge for public lands; for rental charges have always been computed on the basis of a 24-hour continuous use.

Mr. SINNOTT. What is the actual charge then for the horsepower per year? I understood Mr. Lewis, the Oregon State engineer, to say that power could be developed at Celilo Falls and furnished for $9 per horsepower per year.

Mr. MERRILL. That presumably, Mr. Sinnott, is the price on the maximum demand.

Mr. KENT. During the Hetch Hetchy business here in the committee, we were told that the traction people in San Francisco got an extremely low rate, that they really would probably have no immediate profit in the generation of power in the Hetch Hetchy Bill, that the Britton crowd were selling power so low in San Francisco to the street railways and other people who were large consumers,—do you know what they have been charging these large consumers for power, not on the kilowatt hour, but what they have been actually charging per horsepower?

Mr. MERRILL. It is my information that they contracted with the Pacific Gas and Electric Co., for three-fourths of a cent a kilowatt hour, which is $50 per year horsepower per year, on the horsepower equivalent basis.

Mr. KENT. That was running all day and all night?

Mr. MERRILL. That was running all day and all night. They do not do it that way. Now, answering Mr. Sinnott's question, the Province of Ontario, through its hydroelectric commission, is purchasing power from a plant at Niagara Falls on the agreement that it will pay $10 per horsepower for an amount up to 25,000 horsepower and $9 a horsepower for an amount in excess of that, if taken at a certain voltage. Furthermore, the amount they take is not to be measured on the meter, the actual amount taken over, but on the greatest demand that they have for 20 minutes during any one month; that is what is called on the maximum demand or peak load basis. Now, just how much that power is actually going to cost depends upon this very thing that I spoke of a while ago, the load factor. It also depends upon the distance of transmission; but we will assume first that there is no transmission. On 80 per cent load factor the $9 becomes actually $11.25; on a 50 per cent load factor it becomes $15, and on a 40 per cent load factor, which is probably as

much as can be expected under ordinary commercial distribution for railroads and lighting use, it becomes $22.50, and that is what they are really paying.

Mr. KENT. As against over $200?

Mr. MERRILL. That is what they are paying as against $9, which the contract shows.

Mr. SINNOTT. The apparent is $9 and the real $22.

Mr. MERRILL. The real is $22.50.

Mr. KENT. The real cost in the case of San Francisco, under this Britton report, is over $200.

The CHAIRMAN. $260.

Mr. MERRILL. I want to make this further statement, that the Ontario commission will probably lose 25 per cent of that power in transmitting it to the several municipalities purchasing it. On that basis, with the several load factors, the actual price paid would be $12 at 100 per cent load factor; it would be $15 at 80 per cent; it would be $20 at 60 per cent; and it would be $30 at 40 per cent. It actually happens, as the figures are given in these reports, that certain of these municipalities actually pay $30 a horsepower for power that is bought at $9, because it is bought at $9 on one basis and sold at $30 on another.

Mr. RAKER. Let us just ask this question: Supposing the distance from your generating plant to the points of consumption is 200 miles, you have a 200-horsepower generator, what percentage will you lose in transmitting that the 200 miles—just a rough estimate?

Mr. MERRILL. That depends entirely upon how much money you want to invest in transmission lines.

Mr. RAKER. Economically?

Mr. MERRILL. Economically, probably for 200 miles 15 to 20 per cent.

Mr. RAKER. Practically the only conservation or storage of electrical energy is in storing the water—that is, when you have water plants; that is right, is it?

Mr. MERRILL. That is when you have nothing but hydroelectric power.

Mr. RAKER. I am assuming hydroelectric power. Taking the case presented of 200 miles distance from the place of generation and the place of consumption, where this load factor is high, say 70 per cent or 80 per cent of all it will produce, when you get down to 30 per cent can that readily be determined and the power saved, the water kept from going through the plant, still kept back in the dam? I did not make my question quite clear, but you get my point?

Mr. MERRILL. I think I understand what you mean. The drop in load that you mention is instantly indicated at the generating end of the line.

Mr. RAKER. If not instantaneous how soon thereafter?

Mr. MERRILL. If not instantaneously how soon thereafter? Oh, some hundredths of a second. That is, the generator in the generating station is in instant response to the demand on the line.

Mr. RAKER. As a matter of fact, taking the figures that you have given to us, in the long run, during the year of running the plant, it would be cheaper to use hydroelectric power than that generated by steam in a great many instances, wouldn't it, because you would not be losing.

Mr. MERRILL. What would be cheaper?

Mr. RAKER. The development of power by hydroelectric energy?

Mr. MERRILL. People would not develop it by hydroelectric energy unless it was cheaper.

Mr. RAKER. Is that not one of the large factors in favor of the hydroelectric plant?

Mr. MERRILL. One factor in favor of the hydroelectric development of power is that you do not have any fuel costs. That is practically the only factor in its favor, because all of the other factors are in favor of the steam plant.

Mr. RAKER. You are only using the amount of storage water necessary to supply the demand that is on during the time.

Mr. MERRILL. That is all.

Mr. RAKER. And that is a very large saving, is it not?

Mr. MERRILL. Yes. Now, there is one other method of storage, if you may call it that. You may supplement the hydroelectric plant by steam. You may run your hydroelectric plant at approximately constant load, day in and day out, and take the peaks off with the steam. This is a method almost universally adopted.

Mr. KENT. Have you the figures for the Edison Co. in Chicago on their cost of production?

Mr. MERRILL. I do not recall, Mr. Kent, that I have them or any means of getting them.

Mr. KENT. It would be very important to have them, because they have wonderfully cheap coal, they are using coal at about $1.50 a ton, and also they have a big power plant, and they are furnishing electric power and light at a very low price, and I was hoping you did have the figures.

The CHAIRMAN. I wish Mr. Pierce would make for the record the statement which he just made for me.

Mr. PIERCE. The Nitrate of Lime Co. in Norway are actually using 400,000 horsepower at their different plants, which I visited last summer, and they gave me their statement of cost per horsepower per year to them. They manufacture their own horsepower, and it was $9, and I figured it up very closely. I no not think that they took depreciation into account, but I could not make it cost over $9.25.

Mr. KENT. They have practically no transmission?

Mr. PIERCE. No; they have practically no transmission; practically it is used right there; they were using 24-hour power.

Mr. MERRILL. And that included the operation, administration, maintenance, interest on investment; all those?

Mr. PIERCE. They paid the Government 25 cents.

Mr. RAKER. To transmit the power, say, from 10 or 15 miles would practically double the cost per horsepower?

Mr. PIERCE. Yes; twice what it would cost, 10 or 15 miles.

Mr. RAKER. That is just what Mr. Merrill said——

Mr. PIERCE. I have followed Mr. Merrill's figures, and I think he is absolutely correct in all he has said.

The CHAIRMAN. Does not the statement of Mr. Pierce and the statement of Mr. Merrill with reference to the California situation demonstrate the fact that we need the opening up of some more power plants, and that we need some legislation pretty badly?

Mr. RAKER. Undoubtedly, Mr. Chairman.

Mr. KENT. There is no question but what there is to-day in California absolutely an adequate amount of power for the State of Cali-

fornia. We do not need any competition in California to-day. We will need it in the future, but the trouble is they are not regulating them, and these securities have been scandalously watered. I have known about it, and I can bring the figures to show it. They charge up every earthly thing, whether it is right or wrong, in their costs.

Mr. RAKER. In addition to regulation we need extensive development.

Mr. KENT. I do not believe that the engineers would tell us that California to-day is shy of power. We will need it in the future. We are going to need every bit of power we can make. But I think to-day there is ample power in California.

Mr. RAKER. Mr. Pierce's statement heretofore given and his general attitude before the committee with Mr. Merrill shows that Mr Pierce as well as the department officials are trying to give us information to get the best results.

The CHAIRMAN. There is no doubt about it.

Mr. PIERCE. May I say one thing which might be of very great interest to the committee. In the State of Washington the Public Service Commission are now engaged in valuing the properties of all the public utilities corporations of the State, with a view to getting their actual cost and not paying on the extra capitalization.

Mr. RAKER. That is what we are doing in California too.

Mr. MERRILL. In order that the committee may understand the figures in California, though they are high, you might compare the figure with what you pay in Washington, 10 cents a kilowatt hour. On the same basis we are paying in San Francisco, it means you are paying $650 per horsepower in the city of Washington, as against——

Mr. SINNOTT. I did not exactly catch that.

Mr. MERRILL. Against the $260 in San Francisco.

Mr. RAKER. With plenty of water power flowing right by the city.

Mr. MERRILL. They say so.

Mr. KENT. Is the Washington current generated by coal or by water power?

Mr. MERRILL. By steam power.

Mr. KENT. By steam power entirely.

Mr. MERRILL. So far as I know.

Mr. KENT. What is the price of coal?

Mr. MERRILL. I can not tell you except what I have to pay for it. I do not know what they have to pay.

Mr. KENT. They pay less than $5.

Mr. MERRILL. I presume they do, for steam coal.

The CHAIRMAN. Can anybody account for the inactivity of this District in developing this water power up here and getting the benefit of cheap lights?

Mr. RAKER. They are not developed because we do not take this thing over and have these Great Falls of the Potomac River used for the purpose of lighting this city. Mr. Leighton made the statement in here the other day that the Electric Power Company of Washington had the rights on the Potomac River, and gave us to understand, if you were to look over the hearings, that they had control of those rights, although I doubt that.

Mr. CLEARY. The power of the Great Falls of the Potomac is owned at the present day, one-half by the United States and the other half

by the Washington Railway and Electric Company. Neither one owns all. General Butler at one time owned one-half and he sold that half to transferees and it subsequently went into the railroad company. The United States owns the other half, and the two are joint owners of that power.

Mr. RAKER. We appropriated last year $10,000 for a report on it, and I do not know whether the report has been filed or not.

Mr. KENT. Senator Norris is after this thing with a hot poker.

Mr. RAKER. Has that report been filed?

Mr. KENT. I have not heard, all I know is he has been after this, and I think we will hear something directly about it.

Mr. RAKER. I suppose this is an extremely valuable water power?

Mr. CLEARY. You may be very much mistaken about that, because it is a low water-fall, and it is much smaller than the general conception of it. At least I get that from the engineers, and even at high water it loses the value of its flow. I have no interest in it personally, but I think they very much overestimate the value of that water power.

Mr. RAKER. When you are paying this enormous price which Mr. Merrill has stated, six hundred and some odd dollars per horsepower, with the water falls right by us, I want to tell you it looks pretty bad to me. What is the power that can be developed there?

Mr. CLEARY. Somebody said that there were 800 second-feet flow. I am not an engineer, but I understand there are 800 second-feet, the fall I think is 65 to 80 feet. In the Sierre Nevada Mountains the fall is 2,000 feet.

Mr. SINNOTT. What could they develop economically?

Mr. CLEARY. I do not know; I am not an engineer.

Mr. PIERCE. What is the head?

Mr. CLEARY. Somewhere between 65 and 80 feet.

Mr. PIERCE. What is the flow?

Mr. CLEARY. 800 second-feet.

Mr. PIERCE. 800 second-feet flowing 80 feet would be 6,000 horsepower.

Mr. MERRILL. Unless there are other questions, Mr. Chairman, I will go on to other matters.

Mr. RAKER. You have some sort of a statement that you have been testifying from, Mr. Merrill, and perhaps if that could go in it would make it clearer for us.

Mr. MERRILL. I have some figures here from which I have been reading.

Mr. RAKER. Would it not be well to put them in?

The CHAIRMAN. I should not be surprised if it would.

Mr. MERRILL. These figures in here are the ones presented before the Board of Supervisors of San Francisco.

Mr. RAKER. You have them all in a body where one could get at them?

The CHAIRMAN. Are they sufficiently plain to do for the record?

Mr. MERRILL. I will see that they are before they go in.

The CHAIRMAN. If there is no objection they will be put in.

Mr. Merrill. I will add to this further with respect to this topic, that the capitalization of the properties which are used in supplying this power, appears to be approximately $520 a kilowatt or about

$440 a horsepower of the installed capacity. The net receipts for the year 1911 amounted to a return of 6.4 per cent on that capitalization.

I wish to insert in the record at this place a list of the number of permits of different kinds which have been issued by the Department of Agriculture within the National Forests since we have been operating on them, 1901.

The CHAIRMAN. Without objection they will go in.

(Said statement is identified as Exhibit S and will be found in the appendix.)

Mr. MERRILL. I wish now to make a few remarks about water-power development in the West. You have heard it stated here that since the act of 1901 was passed, or in any event since the revocation of permits in March, 1909, nobody has invested any money in the development of water power on public lands in the West. This statement was made by Mr. Willcox, but he finally amended it to say that no new developments, meaning by new developments entirely new enterprises, had entered upon the national forests since that time. I wish to file as a part of the record at this point a list of 12 entirely new enterprises that have been developed on the national forests since March 2, 1909.

Mr. KENT. What is the amount of capital invested?

Mr. MERRILL. I do not have that information.

The CHAIRMAN. If there is no objection, it will be inserted at this point.

Mr. KENT. I wanted to know whether they were small or large.

New corporations constructing and operating power plants on national forests since March 2, 1909.

State.	National forest.	Corporation.
Utah	Kaniksu	Inland Portland Cement Co.
South Dakota	Black Hills	Dakota Power Co.
Colorado	Leadville	Tin Cup Gold Dredging Co.
Idaho	Lemhi	Mackay Light & Power Co.
Nevada	Ruby	Elko-Lamoille Power Co.
California	Mono	Pacific Power Co.
Montana	Beartooth	Cooke Mining & Reduction Co.
Do	Madison	Montana-Illinois Copper Mining Co.
Colorado	Sopris	Colorado Yule Marble Co.
Do	do	Tam O'Shanta-Montezuma Mines & Development Co.
Arizona	Tonto	Arizona Power Co.
Idaho	Salmon	Kittie Burton Gold Mines Co.

Mr. MERRILL. Naturally the major part of the development has been by the established corporations. First, because they have the market; second, because it is more easy to finance a going concern than one on which you have to take your chances. There is this further consideration in the matter, that regardless of whether the permit be revocable or irrevocable, you can not get bonds except on some underlying security, and if you do not own any property you have no such security. Whether the permits were revocable or irrevocable, if you could not get the title to the land, you would have no underlying security for a bond issue, unless, perhaps, you could issue the bonds on the mere franchise. However, most of these cor-

porations in the West that have made developments on the public lands have outside of the public lands properties which serve as the underlying security, and this is a reason why they have been able to finance and to develop on the public lands.

Mr. RAKER. In almost all of the instances they could not develop a complete system upon privately owned lands, the way the California situation is. Isn't that about the condition?

Mr. MERRILL. No; I would not put it as you say it, Judge. I would simply say that regardless of the fact that they could only get that form of permit it was more to their advantage to take the good sites on the public lands than to develop poor sites off.

Mr. RAKER. I would not put it that way. The point I want, however, is that practically all of the good sites are on the public domain.

Mr. MERRILL. Yes, sir; that is true. There has been a very considerable development. This map here which has been prepared by Mr. Fowler, the District Engineer of San Francisco, shows the power developments in the State of California, and the transmission systems. This map will show at least one thing, that power development in the State of California is not an infant industry. These are the lines (indicating on map), branching in every direction across the State, of the several power companies that are operating there. The map shows the recent development at Big Creek, of the Pacific Light & Power Corporation, for use at Los Angeles. This company has recently put in about 90,000 horsepower of machinery starting operation about November 1 of last year. These are the first units in a development of 250,000 horsepower, and almost every acre occupied is public land.

The CHAIRMAN. Is that a new project?

Mr. MERRILL. An entirely new project, but of course an extension of the business of the company. Judge Gibson, the attorney of the company, who was in my office here in Washington last fall, when I apologized to him, as I have apologized to hundreds of people, because we could offer him nothing under the law but a revocable permit, said it did not make the slightest difference to them, from the fact, as I have stated before, that they had sufficient security outside of the public lands to float a bond issue.

Mr. KENT. He meant that they did not expect to be abused by the action of the Government?

Mr. MERRILL. Certainly, and he also stated this, that he considered it inconceivable that when an investment had been made on the public lands, even under a revocable permit, any Secretary of the Interior or of Agriculture either would or could revoke it, because——

The CHAIRMAN. There is no doubt about their ability to do it.

Mr. MERRILL. There is in my mind a considerable doubt as to the efficacy of a revocation if contested. The situation as I see it—and I say this although I am not a lawyer—is this: Assume that a secretary did revoke a permit of a company operating on the public lands, what is the result? What can be done? The only thing that can be done is to have the Department of Justice bring suit in trespass to oust the occupant from the public lands. If the company ignores the revocation and continues to operate, what can be done?

Mr. KENT. Can not the Government cut off the water supply?

Mr. MERRILL. Possibly so, but I do not believe that any court in the United States would disregard the equities in the case, if the action were not taken for substantial reasons.

The CHAIRMAN. Is not the law of contractual relation, which entered into the deal at the initial point of negotiations, of such effect that a court would be compelled to find in an action brought that the Government had absolute sovereign power and could immediately oust the company?

Mr. MERRILL. No, for this reason. I am assuming that the revocation be made not for violation of the contract. I am assuming that the company has absolutely lived up to the contract, but that the revocation is an arbitrary act, outside of the scope of the contract, and resting on the mere statement of the statute that the Secretary may revoke, in his discretion.

The CHAIRMAN. But would not the charge of the judge on the bench to the jury be that the Federal Government was within the law, within the act, invested with full power to sever all relations, and would not the jury, of necessity, find that the Federal Government had that right under the law.

Mr. MERRILL. Mr. Chairman, I want to say just this, that I do not believe the discretion vested in an executive officer goes beyond the object for which he was granted that authority in the first place. I believe his authority is limited to conformity with the purposes for which the act granting him that discretion was passed. But I do not intend by any means to defend the act of 1901, because the irrevocable feature of it is indefensible.

Mr. SINNOTT. You probably have in mind the equitable maxim that the law abhors a forfeiture, and that this is not an arbitrary right of revocation.

Mr. MERRILL. That is what I mean, that the act does not contemplate an arbitrary right, having no consideration of the conditions under which the grant was made.

The CHAIRMAN. Even accepting for the moment the charitable view of it that you take, the matter is full of doubt.

Mr. MERRILL. There is no reason why there should be such a right as that.

Mr. KENT. I am not a lawyer, but it seems to me perfectly obvious that the Federal Government has a right, through the Secretary of the Interior or the Secretary of Agriculture, to revoke a permit; that the Secretary of Agriculture or the Secretary of the Interior can cause the wires to be cut, and then what would the other fellow do?

The CHAIRMAN. Even if they took the law in their own hands primarily, and took an ax and chopped the poles down, I do not believe they could do that. But I do believe that they could proceed through the Department of Justice and attack them by injunction and stop the production of power, and stop everything, and get a writ of ouster and throw them off.

Mr. KENT. They could only attack it by virtue of the revocable permit. I believe absolutely the revocable permit is revocable, and if the Secretary of the Interior or the Secretary of Agriculture say this is revoked, they can go and chop down the poles and cut the wires, and it is up to the other fellow to do the next thing.

Mr. RAKER. There have been some very valuable opinions passed upon that subject. Such action would not affect the legal rights, but it has had a deterrent effect upon the development.

The CHAIRMAN. Undoubtedly.

Mr. RAKER. And Mr. Merrill's view of the matter would make no difference; but I think he is pretty close to the law in what he said.

Mr. MERRILL. Regardless of that fact, there is no doubt in my mind that even though developments have taken place on the public lands, and that the revocable feature of the act of 1901 has not stopped it, it has made it more slow of development, and higher interest rates and greater discounts have resulted because no better title could be given.

The CHAIRMAN. It has probably retarded development to the extent that the present power companies are able to practice extortion, whereas they might have some competition under other conditions.

Mr. RAKER. And they would like to see the present conditions continue.

Mr. KENT. The public has paid ten times over for the element of uncertainty caused by the revocable permit.

Mr. RAKER. They are paying the fellow who has the plant already established.

Mr. KENT. Every time the element of risk is increased the whole public has to pay for it, not once, but five times; and I think that is fundamental.

Mr. MERRILL. I want to add further with respect to these developments on the public land, that the Southern California Edison Co. has, as I recall, some 30,000 horsepower on the public lands at the place I indicate on the map; it is proposing to develop about 75,000 more on the Kern River. The Sierra & San Francisco Power Co. has up here about 30,000 horsepower on the public lands along the Stanislaus River, and is proposing to increase that development to about 75,000 horsepower. The Great Western Power Co., on the Feather River, has started upon a program of development that will ultimately reach 350,000 horsepower. These cases that I have cited, together with the Pacific Light & Power Corporation's developments on the San Joaquin River, will total approximately 750,000 horsepower.

Mr. RAKER. The location of the Great Western Power Co. has been my "stamping ground" from boyhood, and my recollection is that they bought up all that big valley, including some 25 or 30 ranches, and bought out a town, and then they bought all that land down the stream.

Mr. MERRILL. You are not entirely correct.

Mr. RAKER. I did not go there, but they did get a few rights from the public domain.

Mr. MERRILL. The fact of the case is that every plant they will construct there except the Big Bend plant, which is built just outside the public lands, will occupy public lands.

Mr. RAKER. Their dam and reservoir is on privately owned land.

Mr. MERRILL. The greater part, 99 per cent of it. I merely wished to say this in respect to it, not that it was entirely on the public domain, but that every development that they make there involves the public lands.

Mr. RAKER. I do not quite understand you.

Mr. MERRILL. Every development that they make up there, every power plant, with its conduit and power house, occupies some public land, except the present development at Big Bend.

Mr. RAKER. So the committee may understand just what they do use from the public land, isn't this rough, rugged, mountainous country on which a billy goat could not feed? Isn't that about the fact? I do not want to put that in as an element at all.

Mr. MERRILL. Just a little later I may speak about some of those matters. My only object in reciting this case to you and in showing you this map is to show that despite the law as it is these developments have gone on. What I have said is not in defense of the law. The development in California is second only to that in New York. As far as the transmitted power is concerned, it is ahead of New York I made a census of California water powers in 1912, and at that time there was 400,000 horsepower on the wheels. Of that 400,000 horsepower developed in 1912, 175,000 horsepower occupied in whole or in part the public lands, and 226,000 horsepower was entirely off the public lands, the proportions being 43 per cent and 57 per cent. This is in answer to statements that have been made that the Western States are not supplied with power because it is impossible to finance projects on the public lands. As I said a moment ago, there were 400,000 horsepower in 1912 in California. Since that time about 60,000 to 70,000 horsepower has been put upon the wheels. This development of the Pacific Light & Power on Big Creek and the San Joaquin River has in operation only 90,000 horsepower out of a total of 250,000 horsepower. The Sierra & San Francisco Power Co. on the Stanislaus River has only about 30,000 out of a total of 75,000. The Great Western on the Feather River has about 80,000 out of a total of 350,000. Every kilowatt of all I have named will be generated just as soon as there is a market for it, and the occupancy of public lands will not delay it a day. There has never been in the history of the United States a development of water power within a short period such as has taken place in California in the last five years.

The CHAIRMAN. I do not like to interrupt, because you are giving us the very things we want; you are helping us wonderfully, but is there any reason why, if there were a proper law on the statute books, we could not move to the Pacific coast a large per cent of the manufacturing of the country, due to cheap power that you could give to a line of business?

Mr. MERRILL. My answer to that is——

The CHAIRMAN. Of course, that is an economic question.

Mr. MERRILL. Regardless of whether the law has been bad or not there is more power in California to-day than those companies know what to do with, already on their wheels, or in any event in process of development. The present situation of this district calls for more users rather than more power.

Mr. RAKER. The statement that there is a water-power monopoly there is wrong, is it not, in California?

Mr. MERRILL. Did I make that statement?

Mr. RAKER. No, sir; you did not, but I wanted the record to show.

Mr. MERRILL. In my judgment the Pacific Gas & Electric Co. has pretty nearly an air-tight monopoly in the central part of the State, not only from the fact that it has its markets, but from the further fact that under the present public utilities law in California it can maintain its place anyhow.

Mr. SINNOTT. Do you think there is a vicious monopoly there?

Mr. MERRILL. I do not by any means.

Mr. SINNOTT. Exorbitant rates?

Mr. MERRILL. I do not think so; as far as I can judge from the power rates of the country over they are as cheap in here under the Pacific Gas & Electric Co. as they are anywhere.

Mr. RAKER. The Hetch-Hetchy power will affect that situation?

Mr. MERRILL. Presumably so, but the 50,000 horsepower from the Hetch-Hetchy will not make a very big dent in the 200,000 already in the central part of the State.

Mr. RAKER. Before you leave that have you figured any on the Pitt River development?

Mr. MERRILL. The only thing that can be said about the Pitt River development is that it is a good site. It is not as good as some others and it will not be developed until there is a market to sell the power. The point that I wish to make here is this, that there is no lack of power or of power development in the State of California, regardless of whether the law is good, bad, or indifferent.

Mr. RAKER. The assumption in the press and by individuals that there is a water-power monopoly in California is not based upon the facts, is it?

Mr. MERRILL. Not in my judgment; that is, not for the State as a whole.

Mr. RAKER. That covers the northern part in particular; any further development of hydro-electrical energy would tend to reduce the amount that the consumer would have to pay, do you think?

Mr. MERRILL. I hardly would follow you there. I will take that matter up later also, if I may.

Mr. RAKER. That is all right.

Mr. MERRILL. In the southern part of the State there are three corporations operating. They are the Pacific Light & Power Corporation, which has transmission lines from Big Creek and Kern River; the southern California Edison Co., which has a transmission line from Kern River, and both of which have a considerable number of small plants farther down; and over here in the western part of San Bernardino County, around San Bernardino and Riverside, the Southern Sierra Power Co., which brings its power down from the Owens Valley across the Mohave desert and comes in here. Those three companies are in nominal competition.

Mr. RAKER. Where is that?

Mr. MERRILL. Los Angeles. As far as any real, effective competition is concerned, they might for all intents and purposes be under the same head.

Mr. RAKER. They will have another one in there ready to operate as quick as they put the plant in.

Mr. MERRILL. The city of Los Angeles is putting a plant in down about here. Again, I do not want to leave the impression that this monopoly, which is formed, presumably, by a gentlemen's agreement between these three concerns, is an oppressive monopoly, because it has been my observation, not only in this part of the West, California, but elsewhere, that the greater part of the power companies are not trying half so hard to secure a monopoly of the market as they are trying to sell their power. If I had a map here of the United States I would show you the power developments in other sections also, but take the section around Portland, the Portland Railway Light &

Power practically controls that, and it has more power than it can sell. In the Puget Sound district is the Puget Sound Light & Traction Co. That company has from 30,000 to 40,000 horsepower that it is offering to sell for $18 a horsepower, and can not dispose of it. In the eastern part of the State of Washington the Washington Water Power Co. is developing a plant at what is called Long Lake. If that is developed in the next year, the company will have, I should judge, about 60,000 horsepower to dispose of somewhere. The same thing is true, but to a lesser degree, in the territory in Montana controlled by the Montana Power Co., in the territory controlled by the Utah Securities Co., in Utah and Idaho, and in the territory around Denver controlled by the Colorado Power Co. As far as my observation goes, there is not a power district of consequence in the West that is not only fully developed, but overdeveloped, as far as supply of power is concerned.

Mr. RAKER. Right there in that connection, Mr. Merrill, I have received a number of letters from consumers in and about Corning and Red Bluff and through that territory, that are getting hydroelectric energy for pumping purposes, and they claim that by virtue of permits granted to certain companies in that territory the companies in such territory were permitted to raise prices. Do you know anything whatever about that?

Mr. MERRILL. No; I can not answer as to that particular condition, but I am convinced that had that matter been brought before your public utilities commission——

Mr. RAKER. It has since, of course. As to the Pitt River condition, don't you believe there is a great field for power plant of 2,000 to 5,000 horsepower?

Mr. MERRILL. It is away beyond that.

Mr. RAKER. Don't you believe that there is a demand for 4,000 or 5,000 horsepower for the purpose of furnishing energy for these miners and agriculturists down in the northern part of Sacramento Valley?

Mr. MERRILL. I do not think so, Judge, for this reason, that farther down is the Feather River, which is a better power site, everything considered, than anything else that I know of in the West.

Mr. RAKER. On the Feather River?

Mr. MERRILL. On the Feather River. So long as the Big Meadows system can be developed more cheaply, probably, than almost any other site on the coast, it will supply the demand up to the limit of its development before anybody else has a chance to come in.

Mr. RAKER. Of course, the Big Meadows is probably all owned by the Great Western Power Co., that bought the Meadows and the timber land. The timber land is being cleared off now, and all the logs and stumps hauled out for the purpose of putting the dam in shape, and what rights of way they have gotten from the Government have been granted under this revocable permit. Enough power will be generated by the Great Western to supply all the demands that may be necessary for a number of years in the northern part of California.

Mr. MERRILL. I think so, and let me repeat the statement I made awhile ago, that since 1893, when the first plant was constructed in southern California, up to 1912, which is 19 years, there were developed in the State 400,000 horsepower. The present concerns which

have developments under way, including the Southern California Edison Co., the Pacific Light & Power Corporation, the Sierra & San Francisco Power Co., the San Joaquin Light & Power Co., the Great Western Power Co., and the Pacific Gas & Electric Co., all of them active going concerns, probably have projects under way of not less than 800,000 horsepower, or double the development of the preceding 19 years.

Mr. RAKER. Has the Great Western, with its reservoir that you have mentioned, in connection with other private property, entered into an agreement to comply with these rules and regulations as to prices and inspection and all?

Mr. MERRILL. Yes, sir.

Mr. RAKER. Then, that leaves the public in shape whereby they ought to be protected?

Mr. MERRILL. I do not want to answer yes to that question yet.

Mr. RAKER. All right.

Mr. MERRILL. Will you let that pass a little while?

Mr. RAKER. Certainly I will.

Mr. SINNOTT. I understood these foreign nitrate companies were looking for cheap power in this country. I wonder why they could not avail themselves of this excess power in California?

Mr. MERRILL. They have examined it. Representatives of the nitrate interests were all through the West some years ago. They looked over the Feather River site; they looked over the Pitt River site; and they looked over the Skagit River site up in northwest Washington.

Mr. SINNOTT. I understood they offered to put up a plant to take 200,000 horsepower on the Columbia River, at Silvana.

Mr. MERRILL. They looked over the Long Sault proposition on the St. Lawrence; in fact they went all over the country, even up into Alaska.

Mr. SINNOTT. What was the trouble; could they not get it cheap enough?

Mr. MERRILL. They could not get the figure they wanted.

Mr. RAKER. Why have not these people proceeded on Klamath River?

Mr. MERRILL. Who?

Mr. RAKER. If there are any applicants, what has been the reason, if any, that they have not proceeded?

Mr. MERRILL. Are you inquiring now about that application for power development on the Lower Klamath River?

Mr. RAKER. I have read something about it; I do not have it clearly in mind. I thought you could present it to the committee.

Mr. MERRILL. My opinion is, Judge, that it was nothing but a paper concern in the first place, and you can not build a power plant with paper.

Let me make this further statement for what it is worth. You have had presented to you as a fact that it is absolutely impossible to make developments on public lands under license, that if only you could get an easement you could do anything. Under the acts of 1875, 1891, and 1905—acts which grant easements in perpetuity, and without conditions so long as they are used—there have been granted in the national forests 726 easements, of which, according to my records, 128 have been completed, or 17.6 per cent. In the

meantime there have been granted in the national forest under revocable law up to November 1, 1913, 279 power permits on which there has been construction in 109 cases, or 39.1 per cent, twice as many as under easement. There were also under construction 35 more, or 12.5 per cent. Permits under which no construction had ever been started numbered 135, or 48.4 per cent. If we make comparison on the basis of permits outstanding on July 1, 1913, the result would show 83 projects completed, or 58.9 per cent; 36 projects under construction, or 25.5 per cent; and 22 projects on which no construction has been done, or 15.6 per cent. It takes something more than an easement to make possible the development of an enterprise. I present here a table showing this information:

Easements.

		Per cent.
Number of approved cases which had been completed	128	17.6
Number of approved cases which had not been completed	598	82.4
Total number of approved cases	726	100.0

Water power—open cases on July 1, 1913.

Number of cases in which construction completed	[1] 83	58.9
Number of cases in which construction started but not operating	[2] 36	25.5
Number of cases (final permits) in which construction not started	22	15.6
	141	100.0

Water power—all cases open and closed up to Nov. 1, 1913.

Number of cases in which construction completed	[1] 109	39.1
Number of cases in which construction started but not operating	[2] 35	12.5
Number of cases (final permits) in which construction not started	[3] 135	48.4
	279	100.0

As to the present law, its chief lack—and I do not intend to discuss it further—is the insecurity of tenure. I have not heard a man in the Government service or out defend that feature of the law. The one thing that is vital in new water-power legislation is the granting of a tenure under which investment can be protected. We could stop there and still do business under the present procedure of the departments.

Although not necessary, it is extremely desirable that a bill with some other features in it be passed and that there should be practical recognition, as this bill before you provides, of certain features in connection with the control of water power, which have been established and put into effect by the departments. As far as the bill before you stands, I agree thoroughly with the principles upon which it is drafted. I do disagree in detail, Mr. Chairman, with several features.

The CHAIRMAN. Will you explain them?

Mr. MERRILL. I will before long. I am going to read into the record here, if I may, a statement which I prepared several weeks before I knew there was any bill of this kind coming up upon what I deemed the essentials of a national water power policy.

(Thereupon, at 5.45 o'clock p. m., a recess was taken until 10 o'clock to-morrow morning.)

[1] Difference in figures due to transfers of rights, to consolidations, and to difference in date of record.
[2] One case completed between July 1 and Nov. 1.
[3] Includes closed cases.

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Friday, May 8, 1914.

The committee reassembled at 10:30 o'clock a. m., Hon. Scott Ferris (chairman) presiding.

STATEMENT OF MR. O. C. MERRILL—Continued.

Mr. MERRILL. Mr. Chairman, and gentlemen of the committee, I wish to make a sort of a general statement before I proceed with the discussion of these matters, on what I consider to be the proper attitude of a witness before this committee. There have been people brought before you who have considered, as the secretary said before you the other day, that they are appearing as a lawyer ordinarily appears as an advocate of his client. There have been statements made before this committee that were true, so far as they went. The trouble with the statements has been that they have stopped half way, and they must have left before this committee, as they would leave with anyone who did not know what the rest of the statement should be, a false impression.

I shall assume, Mr. Chairman, that my position here is not that of an advocate of one side or the other of this question, but that I appear before you as a technical adviser on matters with which you are not supposed to be familiar. In so far as I am able I shall give you, in my best judgment, my opinion on all matters before you, and I will answer freely any question which you may propound, as far as I have information to answer.

In my judgment a bill which you may draft should have for its purpose the fixing of just conditions for both the public and the power companies which are to operate under the bill. In my opinion there is no difficulty whatever in preserving all the legitimate rights of the public and all the legitimate rights of the investor, and that when we have done that we need go no further.

There are occasions when you must put certain restrictions upon certain kinds of business, and pay the expense of it, because by so doing you save yourselves some expenses elsewhere. But every restriction you put on any business of any kind that does not have some substantial benefit behind it you pay for, and pay for over and over. Mr. Chairman, you can not repeal an economic law by any act of Congress.

When I concluded my statement last night I was about to read to the committee what I have called an outline of a Federal water-power policy, which I had prepared some time prior to the introduction of any bill before this committee. I wish to let it pass for the present as a mere statement. Certain features which are in it I hope to discuss later.

First, with reference to the ownership of power sites.

1. All public lands having a prospective value for water power use should be designated as valuable for water power, and thereafter such lands should be patented only upon the condition expressed in the patent that the right to use such lands for water-power purposes is reserved in perpetuity exclusively to the United States and that such lands may be used or leased by the United States for water-power purposes upon terms equitable to the patentee.

2. Whenever designated lands will be immediately or especially valuable for water-power purposes, whether an application for such use has been made or not, or whenever designated lands are applied for for power purposes they should be immediately withdrawn from all forms of entry, except such as will not interfere with the construction, maintenance or operation of water-power works thereon.

3. All private lands which are within power sites, to be leased by the Government—that means all private lands in connection with public lands in the same power site—and all water rights attached to such lands should be deeded to the Government by the lessee at an appraised valuation not to exceed the cost of acquisition, and the Government should remit all rentals charges until such time as the accrued rentals liquidate the appraised valuation, plus interest thereon at current rates.

The CHAIRMAN. Suppose there would never be sufficient?

Mr. MERRILL. I wish to pass that statement now. There will be that condition, however, and I will discuss it later.

Second, with respect to the utilization of power sites:

1. Power sites should be disposed of by lease, those having a capacity of less than 1,000 horsepower to be leased to individuals, associations, and private or municipal corporations; those having a capacity in excess of 1,000 horsepower to be leased to municipal or public-utility corporations only.

2. Leases to be authorized for a fixed term, with option of renewal, or to be indeterminate, subject to periodic adjustment of terms. No lease to be revoked except upon a violation of specific conditions of the lease. Revocation prior to construction to be made by administrative action only; after investment, by judicial or quasi-judicial action only.

Third, with respect to the conditions of the lease:

1. As prompt and full development as the circumstances of each individual case will warrant, and continuous operation after completion.

2. Payment of rental for the use of Government land within all power sites. These payments should be (*a*) During the period prior to operation, deposits only, which should be credited to the lessee if and when operations begin under the lease. (*b*) During the early operation period payments should be small, increasing by graduated steps until a normal charge is made at the time of complete utilization of the total capacity, or at the expiration of 10 years, whichever is reached first. (*c*) Under present conditions, with the present organization of departments, rental charges should be a nominal sum only, for the purpose of defraying the expenses of administration, and should not be great enough to impose a burden upon any permittee, and should be calculated upon some relatively fixed basis as the estimated rental capacity. (*d*) In the future, especially if any legislation can be secured, charges should be based upon the "economic rent" of the lands of the United States in the power site. The annual rental should not be less than the current interest rate upon the value of the Government lands, considered as a part of a power site, which is being utilized in connection with an established business. If the remainder of the economic rent of the lands of the United States is not taken by the States, by reduction of rates or otherwise, it should be measured in some proportion be-

tween the lessee and the Federal Government and later be turned back to the State.

3. Uniform systems of accounting and annual reports should be required from lessees in order to furnish information for the regulation of rates and of service, if this should become necessary, or for the determining of rentals if the basis should be the economic rent, or in proceedings by municipal corporations for the expropriation of properties under permit on the public lands.

4. The Federal Government should reserve the right to fix the rates, service, and capitalization of lessees whenever local or State agencies have no authority to exercise such regulation. Such action to be taken by the Federal Government, however, only as an emergency measure, and only upon complaint and after full public hearing.

5. Leases should contain the express condition that the rights granted shall not be subject to capitalization in any proceedings for the purchase of the property or for the fixing of rates of payment or of character of service.

6. Properties of lessees on public lands should be subject to expropriation by municipal corporations whenever such corporation may exercise such right on lands other than those of the United States.

7. Leases should be terminable upon proof that lessees have conspired to prevent the development of new plants or to limit the output of present plants, or have made agreements for pooling earnings or for fixed prices, or have discriminated in rates of service for the purpose of suppressing competition. Control by holding companies of plants in noncompetitive territory should probably be prohibited. Control by holding companies is not likely to result in any appreciable economies, but may and probably does result in such a control of the sources of credit that new and competent development are hindered if not entirely prevented.

And, finally, with respect to administration:

On the assumption that all the preceding functions should be exercised by the Federal Government, the administration should be concentrated in a Federal water-power commission, having a standing like that of the Interstate Commerce Commission, and having control of the administration of water power on both navigable streams and on the public lands and reservations of the United States. Such an administration would provide for a more stable public policy and would avoid duplication of work, and particularly diversity of action by different departments, and would provide a personnel more capable of handling the problems involved.

I am passing this as a mere statement at the present time. I intend to discuss some of its features in connection with what is proposed in the present bill. As I said last night, Mr. Chairman, I agree with the general principles of this bill. I do not agree with all its details.

One feature only of the statement which I have just read do I wish to say anything further about at the present time, and that is the statement in there that the equitable basis of rental should be what is known among economists as the "economic rent." This term does not mean "rent" as ordinarily used, because rent of a building, for example, includes not only a return on the value of the land but a return on the value of the properties on the land, together with costs of administration, and many other features. I have used the

term "economic rent" merely to distinguish it from the term "rent" as thus used.

This matter is a technical one and in order to illustrate just what I mean I wish to insert these several pages in the record which give by actual example what I consider is the meaning of "economic rent" as applied to a particular case, and which give also illustrations of what I consider the only proper method of determining power site valuations.

The CHAIRMAN. Unless there is objection that will go in.

(The documents referred to are identified as Exhibit T and will be found in the appendix.)

Mr. MERRILL. I will simply make this statement in connection with the document, that the figures in the first example illustrate a case in which the gross receipts are $100 per horsepower, in which all the expenses except interest, but including maintenance, operation, and depreciation reserves, amount to $64, leaving a balance of net revenue of $36. I have assured in this example that the interest rate on a secured investment is 6 per cent, and that a reasonable return which might be allowed is 12 per cent. On that basis, were the net revenue of the figure given, $36, the total permissible investment at 12 per cent would be $300 per horsepower. On the assumption that the entire investment that actually has been made is $250, there is left a remainder of $50, which is the amount a permittee could afford to pay in cash for the Government's site and still earn 12 per cent on his entire investment.

The term "economic rent" in this example is the interest at 12 per cent on that $50, or $6. My recommendation is that, with a value of power site of $50 determined in that way, the Government acting for the public should take the position of any other loaner of property, and should secure on that value the same rate of interest that the permittee pays to others on his secured investments; in the example given, 6 per cent. Now, in the example that I have given, if for any reason rates are reduced by the utilities commission in the State the value of the land, according to this method, as a part of a going concern, necessarily drops as gross receipts drop, and if the business is properly regulated it will disappear, in which case there will be no rental at all, unless a small fixed charge should always be made for administrative purposes.

I now wish to discuss the character of the grant which should be given.

Mr. RAKER. Would it be asking the witness too much to explain just a little farther what he means by that? If that should continue but a short time the permittee would not have to pay anything to the lessor?

Mr. MERRILL. If the rate should be so reduced that the margin of $50 between permissible and actual investment disappears there will be no rental, and should be none.

Mr. KENT. You want to give the investor 12 per cent?

Mr. MERRILL. That is merely the rate that I have taken for illustration, Mr. Kent. I would be willing, as far as my position is concerned, to give an investor in projects of this character, which carry a considerable risk, a return of twice what he pays for interest on secured capital. That is a matter of opinion only.

Mr. GRAHAM. Are your figures based on the highest degree of efficiency or the lowest degree of efficiency?

Mr. MERRILL. These are only illustrative figures, Mr. Graham. My proposition is, throughout all this proceeding, that the investor in public utilities properties should receive a fair return on every dollar legitimately invested. And if, and as is probable, plants can be reproduced at the present day at costs far less than the original amount that went in, it is only fair, if there was no fraud in the original investment, that the public should pay interest on it.

The CHAIRMAN. But that item of interest in the rate fixing bodies of the State, do they not and is not that properly considered in that regard rather than——

Mr. MERRILL. May I leave that until later, too.

The CHAIRMAN. Certainly.

Mr. MERRILL. I merely wished at this time to illustrate what I meant by the term "economic rent."

The CHAIRMAN. That is all right; go ahead.

Mr. MERRILL. Now with respect to the character of the grant which should be given. I think it is immaterial, either from the side of the public as lessor or of the investor as lessee, whether the grant which is given is for a fixed term, which may be renewed under fixed conditions, or whether it is indeterminate, as is the practice under the Wisconsin law. The two mean practically the same thing, with the advantage, if any, in favor of the fixed term, for the conditions remain fixed for 50 years and are modified only at the time of renewal. Under the indeterminate law of the State of Wisconsin the conditions may be changed at any time by legislation. The only point which serves as a limit is this—the legislature may not fix conditions that will prohibit or prevent a lessee from earning a reasonable return upon his investment.

Mr. RAKER. Under the Wisconsin law it is not determined by the board but by the legislature of Wisconsin as to change in rates?

Mr. MERRILL. No, the rates are fixed by the board under the conditions of the law, but the legislature might change the conditions of the law at any time.

Mr. RAKER. That is what I say.

Mr. MERRILL. This bill provides for a lease for 50 years. I believe the testimony given before this committee shows that this is a reasonable period.

With respect to the matter of renewal, I believe that provision should be made in any lease granted that the original lessee should have the right to renew except under two conditions, first, when the site is needed for public purposes, either by the nation, by a State, or by a municipality; second, when the lessee refuses to accept at the time of renewal the conditions imposed upon all other lessees.

Mr. RAKER. Before passing that, is it your view that if the time has been fixed for 50 years the rates for which the party is given a lease should be fixed during that entire term?

Mr. MERRILL. You mean the rental?

Mr. RAKER. Yes.

Mr. MERRILL. May I leave that for a moment?

Mr. RAKER. Yes, sir.

Mr. MERRILL. I do not believe that the revocation of a lease should be limited to judicial action only throughout its full period, and for this reason, Mr. Chairman. I read you yesterday a list of easements which have been granted within the national forests. I do not know how many more than that number have been granted outside, but of the list of 726 easements for various purposes that have been granted under the acts of 1875, 1891 and 1905, according to our records only 128, or 17.6 per cent, have been completed. The only method by which the rights granted to the other 598, or 82.4 per cent of them, can be taken back, regardless of whether they have been used or have not been used, is by action in the courts, unless the man holding the easement voluntarily relinquishes it. There are reservoir sites and rights of way almost innumerable throughout the West that are being held under the act of 1891, not for use but to prevent somebody else from using them until the holder gets his price.

The city of San Francisco at the time that it was working on the Hetch Hetchy project was held up by certain interests in San Francisco who had secured rights of way ostensibly for irrigation purposes, under the act of 1891, on Eleanor Creek and Cherry Creek, to the tune of over $600,000. The people who had secured those easements from the Government had made no investments other than the cost of making the original surveys, which probably did not exceed $25,000. The city was helpless, because it would have taken years to have gone through the courts to cancel those easements. The only alternative was to pay the holdup price.

My position then with respect to the form of grant is that the law should provide, first, that there may be given a right which is in the nature of a license, just as is done under some of our Western water laws. By that license is granted to the applicant a priority of right during a time sufficient to make all the surveys and investigation necessary, to effect such financial arrangements as he needs, and to give opportunity for making a showing that the project which he has in mind can be developed. If it can be developed, then an easement or a grant which is revocable only by judicial action may be issued; but it should not be issued earlier. In this connection I wish to call your attention to the possibilities under the law as amended by Mr. Pierce.

The CHAIRMAN. Let me interrupt you right there. Did I understand you to say that you thought a temporary or preliminary permit should be issued pending a time when they could determine the feasibility and financing, and you thought that permit only ought to be cancelled by judicial action?

Mr. MERRILL. No, by no means, by administrative action.

The CHAIRMAN. I am glad you did not say that. That would be more cumbersome than it ought to be.

Mr. KENT. With reference to the Hetch Hetchy proposition, as I understand, under the laws of California a person is forced to apply the water to a beneficial use or the permit lapses, that is, the filing lapses.

Mr. MERRILL. That question of water rights could have been tested in the California courts. Of course, you understand that the law of appropriation, up to the date of the new act, did not fix conditions as between the appropriator and the State, but as between two appropriators, one of whom might test the other's right, and that no

question could ever arise as to whether the terms of the law had been complied with unless action was brought by a contestant in the courts.

Mr. KENT. Under the present law in California the relief is with the State.

Mr. MERRILL. The relief is with the State under the present administration of the law.

Mr. KENT. So that beneficial use has to be carried on right away or the thing lapses of itself.

Mr. MERRILL. It either lapses automatically or is cancelled by the water board.

Mr. GRAHAM. Who is to determine the fact of beneficial use?

Mr. MERRILL. Of course the claim would have been made in the case cited that the holders and the rights had been proceeding with reasonable diligence.

Mr. GRAHAM. Now that we have broken your line of thought there, I did not get the numbers, but you said there had been something over 700 easements issued and that only 17.5 per cent of them had been built, the remaining number, which would be 82.5, remaining dormant, idle, and without use. I understood you to lay stress on the fact that you were offering that as an example to show why judicial action should be taken.

Mr. MERRILL. Why judicial action should not be taken, prior to investment. The very fact that the only way you can call back one of those easements after it has been approved by the Secretary of the Interior is by action before the courts shows the undesirability of giving a grant of such character unless you know what use will be made of the right, or whether it will be used at all.

The CHAIRMAN. The fact that the procedure through the courts was so tedious and circuitous and drawn out, it had not been resorted to.

Mr. MERRILL. Not only that, Mr. Chairman, but think of the work that would be involved even in the most expeditious procedure in bringing 600 suits.

The CHAIRMAN. On the other hand, yourself and every witness and the entire membership of the committee have come to the conclusion that it would be dangerous and inadvisable to let a revocable permit plan go on.

Mr. MERRILL. After any money has gone in, Mr. Chairman, I would put the dividing line right there.

Mr. FERGUSSON. That is what I understood; it is very important, too.

Mr. MERRILL. The dividing line should be right there. When a man has an investment to be put in jeopardy I would give him the benefits of the courts every time, but prior to that time he has no reason to expect it.

Mr. KENT. What is the trouble with the revocable permit in all these numberless cases that you mention?

Mr. MERRILL. They are not under revocable permit, they are under easements under the acts of 1875, 1891, and 1905.

The CHAIRMAN. Then there might be considerable merit in leaving the repeal clause in, might there not, to get rid of some of these laws.

Mr. MERRILL. The repeal that you are proposing would not touch any of those laws.

Mr. KENT. Are not those subject to the ordinary clause for breach and things of that sort which can be revoked by the courts?

Mr. MERRILL. Only by changing the act, because, as I recollect the act of 1891, the right of way which is granted is what the attorneys call a grant "in presenti" with the condition in it that if the structures are not built within five years the right shall lapse, but it has been construed that it is not an automatic revocation, and that even though no work of any kind has been done, unless the grantee voluntarily relinquishes you must go into the courts and revoke the grant by judicial action.

Mr. GRAHAM. The facts have to be determined in a judicial way, whether the things that are described in the act are complied with or not.

Mr. MERRILL. Because it is an easement and not a license.

Mr. GRAHAM. How would you avoid that, leave it in the judgment or discretion of some Government officer to determine whether the facts are thus and so?

Mr. MERRILL. I do not think you can do it otherwise; that is the practice under the State water laws in all the States that have State administrative water boards.

Mr. RAKER. Mr. Merrill, just to come back to the other matter, though I do not want to get too far from the record at this point. Is it not a fact that the purchase of water rights on Cherry Creek and Lake Eleanor was obtained by San Francisco because they believed they were prior to other subsequent filings upon these waters, and they believed that the prior applicants that they had purchased were valuable.

Mr. MERRILL. I can not answer that, Judge Raker; I do not think that——

Mr. RAKER. Would not this be the condition, if they were of no value, and work had not been commenced and continued with reasonable diligence, that San Francisco or anyone else who made a subsequent filing in the court would be granted a prior right, under the decisions of California courts in the law?

Mr. MERRILL. I presume, Judge, that the situation is rather of this character; the city of San Francisco did not believe that those rights were valid, but they did believe that it would cost more to drag litigation through the courts for three or four years, as it could have been prolonged, with the expense and the delay, and that it was better to pay the price at the start. It is just that sort of a grip that is being held under rights of that character for speculative purposes.

Mr. RAKER. Take one of the easements made revocable; it is only on condition and under the authorities that a man may maintain it as long as he uses it, and if he ceases to use it for the same length that it would require to obtain title to real estate, the next applicant gets the right.

Mr. MERRILL. You mean that it would expire by the statute of limitations?

Mr. RAKER. Yes.

Mr. MERRILL. I can not pass upon that as a legal question, but my understanding is——

Mr. RAKER. I know, but just from your investigation of the matter, isn't that the condition of all these matters? A man goes out and files a water right and files a right for his ditch; now if he does not start

it within 60 days, and continue it, his right lapses, and the next applicant gets the right, and then if he builds his ditch and abandons for five years, which in the State of California is the time to acquire property by adverse possession, or the statute of limitations—the same rule applies—that the next applicant who files his notice of proceedings would obtain that title, and can proceed right along with the work.

Mr. MERRILL. There is this situation, I think, Judge, with respect to that particular case. But if the city of San Francisco had attempted to take such action it might have been defeated by the holder of the right actually going up there and starting construction; something that was actually done in that particular case.

Mr. RAKER. Leaving that out, and asking you as a general matter on this seven hundred and some odd that you referred to.

Mr. MERRILL. I agree with you thoroughly as far as the water right question is concerned, but I am not so clear about the easement, because it is my opinion, from what I have read with respect to the decisions of the Department of the Interior, that judicial action must be taken.

Mr. GRAHAM. The very statement of the case by Judge Raker shows that in every one of them there will be a question of fact involved. As I understand the law now provides no way for determining what the fact is, except by judicial proceeding; going into court would serve the very purpose these parties want served, by delaying the proceedings long enough to make it cheaper for the city, or anyone else, to buy them out at that price than to await the result of the litigation.

Mr. MERRILL. That is practically the situation, and that is the danger of it.

Mr. GRAHAM. I think it would be desirable to have some method there, the Secretary of the Interior or a commission or some other body not strictly judicial, to determine the fact quickly, and reach a decision.

Mr. MERRILL. That is the method that is employed in many of the Western States in respect to their water rights, prior to investment of money.

Mr. RAKER. Right in that connection, I do not want to take any more time, but you would not want to take a man's property from him without a hearing?

Mr. FERGUSSON. He has no property, because he has not invested anything.

Mr. RAKER. Oh, yes, he has; under the Constitution and under the decisions of all of the courts, when a man files his notice and does work and proceeds with it, establishes his ditch and appropriates his water, he has a valuable property.

Mr. MERRILL. I did not state at any time, Judge, that there should be no hearing.

Mr. GRAHAM. In any case there might be rival claimants, as for homestead, when the dispute is decided, and finally decided, by the Secretary of the Interior?

Mr. MERRILL. We have revoked many permits that have been issued because no construction of any kind was ever attempted, but it has never been done without giving the permittee opportunity to be heard. In most cases if he could make any reasonable showing

of any kind that he could proceed, regardless of what lapses there had been in the past, he has been granted the opportunity to proceed.

The CHAIRMAN. May I for the moment revert to your proposition to see if I understand thoroughly? In substance you would say that as to the defeasance or recapture of the property after permit had been issued of any sort, would be that up to the time of the expenditure of money in some valuable improvement on the land, you would make the defeasance upon conditions and notice, to rest with the department?

Mr. MERRILL. I would.

The CHAIRMAN. But subsequent to the initiation of valuable improvements and expenditure of money on the land covered by the permit, then you would resort to the court, so that a full judicial finding could be had as to defeasance of the property?

Mr. MERRILL. Precisely.

The CHAIRMAN. Would not your rule be a little simpler—and I want to pause long enough to say that I am impressed with the soundness of this—by saying in this bill precisely what you did in the Alaska coal leasing bill, precisely what you did in the general leasing bill, which authorizes the department to fix a period, to have a temporary permit, which may, upon condition ripen into a permanent permit, and in event the conditions are not complied with it would be cut off without any finding or hearing or anything but by which the lessee or the permittee would have full notice at the time?

Mr. MERRILL. That is practically what is being done now.

The CHAIRMAN. Precisely; but you are laying down a rule and method where it would always be a mooted question how much had been expended on surveys, how much would be expended on engineering and how much had been expended on financing, how much had been expended on intangible matters really not within the rule.

Mr. MERRILL. I would make them tangible and only tangible.

The CHAIRMAN. I understand, your rule does; but my thought is that engineering expenses might reach such proportions and financing expenses might reach such proportions that the permittee would have nothing to lay on the table and say what he had done—still he really might have some equities there that should be taken into consideration.

Mr. MERRILL. I am perfectly willing to preserve any man's reasonable equities. It is merely a matter of how it should be stated.

The CHAIRMAN. Of course, if Mr. A, an applicant for a temporary permit, receives a permit for a period of two years to determine, first, the feasibility; second, his ability to finance, he knows just what he has within that two years' period and he knows at the end of that two years' period if he has not established the feasibility, if he has not been able to finance, if he has not complied with the conditions laid down in the permit that it is all off. There of course is a little more definiteness for the investor I believe than in the rule you lay down.

Mr. MERRILL. It is a matter of detail.

Mr. RAKER. One other question and I am through and I will not interrupt any more. What is the nature of these eight hundred

and some odd claims where there were easements obtained, and you say 17 per cent of them——

Mr. MERRILL (interposing). What is the nature?

Mr. RAKER. Yes.

Mr. MERRILL. Rights of way for railroads and for irrigation developments and part of them rights of way for mining developments—that is, development of power in connection with mining. As to how many of each kind I can not tell you.

Mr. RAKER. Mr. Merrill is so fair in giving us everything here, I should like to have the question of easements presented so that we can have a segregation of the railroad and other classes.

The CHAIRMAN. You would like to have a list of them?

Mr. RAKER. Yes.

The CHAIRMAN. Will you get them up, Mr. Merrill?

Mr. MERRILL. I have them on record and can give them to you.

The CHAIRMAN. Let the record show at this point that Mr. Merrill will procure and furnish, to be put in the record, a list of the 726 permits——

Mr. RAKER. No; easements, by classes.

Mr. KENT. You do not want the seven hundred and odd permits?

Mr. RAKER. Not permits, only easements.

Mr. KENT. You want the classes?

Mr. RAKER. I would like to have him put in, for instance, the number of railroads and give the names and number of mining easements, and so on.

The CHAIRMAN. Is it necessary for him to give the names?

Mr. RAKER. I would like to see that; that is what I am asking for.

The CHAIRMAN. Let him procure a complete list of the grantees, parties holding the easements, and the dates of the grants, etc.

Mr. RAKER. One other question in connection with that; do you include in that statement, Mr. Merrill, the easement obtained by a miner for his mine, for developing his mine?

Mr. MERRILL. If he has applied to any department for such a right of way. The list here covers all of the easements which we have of record on the National Forest land. I presume there are many more that we have no record of.

Mr. RAKER. It would apply to a case of that kind, would it?

Mr. MERRILL. Whatever right may be applied for, if it is in the nature of an easement.

Mr. RAKER. This does not include any of the easements obtained under the act of 1866 or 1870?

Mr. MERRILL. No; because there was no formal right granted.

Mr. RAKER. How is that?

Mr. MERRILL. There was no formal grant. This list covers approved claims.

Mr. RAKER. But the grant is in præsenti, and is considered as a grant by the Land Office and by the courts as well.

Mr. MERRILL. Yes; but this list contains only those that are made of record. I had wished to call attention to possible results——

Mr. RAKER. Just one question; you would not want to affect in any way by this legislation the rights of the farmer or the miner or the mill man, who runs a little grist mill, or change his rights to obtain property to develop his farm or his mine, would you?

Mr. MERRILL. I would make it as easy as I could for that class.

Mr. RAKER. Would you change the present law in relation to that easement, under the act of 1866 or 1870?

Mr. MERRILL. No; I would let all those laws stand as they now are. There has been no intention, as I understand it, in the repealing clause of this bill to touch those laws.

Mr. RAKER. If there is anything in that clause that would have that effect it ought to be eliminated.

Mr. MERRILL. Except only to this extent—that the repealing clause there would, in my judgment, apply to the rights which are granted under the act of May 11, 1898, as an amendment to the irrigation act, which amendment covers water power and water power only.

Mr. RAKER. Then, so that I may get a thorough understanding, you believe that this bill should apply to water-power development?

Mr. MERRILL. Water power and nothing else.

Mr. RAKER. Excuse me, Mr. Chairman, Mr. Merrill has presented them so clearly now that it is before us without any complication.

[The list above referred to will be found as Exhibit W in the Appendix.]

Mr. MERRILL. There have been suggestions in connection with this bill which you now have here, first, to make the lease mandatory; second, to provide that the lessee shall begin construction within a certain period and complete within another certain period such an amount as may be necessary to supply a reasonable market demand; and, third, that the lease provide for a rental only when power is actually developed. Now, under these three provisions, taken together, I, or anybody else, could go out into the State of California, could make application en bloc before the Department of the Interior for a million horse power, take every site of consequence from the public lands in the State of California, or any other State, and apply for it in one single application to the department. The Secretary would have no right to decline it. He must grant it under that mandatory clause. There would be no obligation for the payment of any charge for rental for these lands, the only thing that a lessee would have to do would be to comply with the condition that as fast as the market needed more power he would supply it, something that an operating company would do whether it were required in the lease or not. With the bill drawn with these three amendments I would write over the top of it, "To provide for and to promote speculation in water-power sites." I do not think you could devise anything that would give greater opportunities than these three amendments.

Mr. RAKER. Has there ever been any determination in the courts by subsequent claimants that the power claimant unless he actually developed within a reasonable time loses his rights?

Mr. MERRILL. You would provide in the proposed amendment to the bill that an applicant could hold any number of power sites for at least 50 years providing only he supplied the reasonable market demands in the district in which his lease existed. That need not mean that you are not going to get development, it need not mean that your market will not be supplied, but it does mean that the opportunity for power development, under this bill, might be granted to one interest and one only. There would be no escape from it, if you make the provision mandatory, for the simple reason that if it is mandatory, and the bill further provides that lessees shall be required only to supply the reasonable demands of the market, there is no

limit to the amount that any applicant could apply for, for there would be no discretion with the Secretary to deny him.

The CHAIRMAN. You mean with the amendments?

Mr. MERRILL. With the amendments.

The CHAIRMAN. You said as drafted.

Mr. MERRILL. I meant as amended. For that reason, unless there is some change in the language, Mr. Chairman, I think the amendments as they stand here are exceedingly dangerous. I do not believe Mr. Pierce had any such thing in his mind.

Mr. PIERCE. Mr. Chairman, I did not, and I think I agree with Mr. Merrill, and that there should be something written in there to prevent the situation which he mentions.

The CHAIRMAN. I presume you were striking at definiteness more than anything else.

Mr. PIERCE. That was it.

The CHAIRMAN. That might work a great hardship on the small irrigator or small user of water.

Mr. MERRILL. Yes.

The CHAIRMAN. That would leave him defenseless.

Mr. MERRILL. I think the feature that I mention is the one that is most dangerous, but I do believe there should be discretion within limits given to the executive officers for handling it. I can state from my experience in the department that I know of but one instance where a lease was granted for less than the full term allowed, except upon application or desire of the permittee, and that was one case in Colorado, where the permit was issued for a period of less than 50 years because the applicant had a franchise to supply a city; the franchise absolutely terminated at a certain date, and the property was to be taken over under the terms of the franchises. Consequently we made the period of the lease on the Government lands coincide with that of the franchise. There have been other instances where we have granted permits for short periods for temporary uses, as for example, for a temporary power plant to be used in the construction of a larger plant, the smaller to be abandoned after the completion of the main works; and also for the construction of a plant for use in lumber operation, which would extend over a period of five or ten years only.

Mr. RAKER. Just one question, Mr. Merrill, in this connection. Speaking of the first provision of the section as to giving the party a right to go out and determine if he wants a site and giving him the preference if he complies with the law, and, the other side of it, in allowing the Secretary discretion whether he should grant it to him or not. Taking the first, that he has the preference right to have that power site, he must develop it to its utmost, and supply all those who are within a reasonable radius with electrical energy, must he not, under this bill, and if he fails to do it, forfeit his entire rights?

Mr. MERRILL. I am assuming, judge, that he does do all that. Under the provisions of the amended bill you may limit the opportunity to the one largest owner, or corporation, or group. It is not that the power will not be developed and will not be exploited, because you have conditions in here that will require it, but I do not believe in giving the sole privilege of future power development to any one individual or corporation or group of interests.

Mr. PIERCE. May I say a word on that?

The CHAIRMAN. If it is not too long; we want to get the statement in a connected way.

Mr. PIERCE. Just one moment on that subject. My only thought on making this two years to begin and then five years to complete, with such additional time as the Secretary of the Interior might believe necessary, was in the way of orderly procedure. I thought as the bill was originally drawn, for continuous operation, that was not sufficient, and it was my thought and my idea that the Secretary of the Interior would never grant a permit to a promoter or speculator who just came along and asked for it; but the applicant would first have to go to the State and become a public-service corporation, and they would have to show their maps and show that they were able to finance it, and were men of stability and not speculators. But I do think, with some little changes, the point is well taken by Mr. Merrill. I think with a small change that could be made to fit the case.

Mr. MERRILL. I am not criticizing Mr. Pierce, because I have not the slightest notion that he intended anything of the sort, but under that language things of that kind could be done.

Mr. THOMPSON. Mr. Chairman, I wish it were possible for Mr. Merrill to complete his statement without any further interruption. The questions, even by the members of the committee, I think could be eliminated, and then if it is desired to go back and ask questions we can do so, and thus we will have more than if we chopped it all up this way.

The CHAIRMAN. I think we all are of that same mind, except that Mr. Merrill is hitting the keynote so completely that the temptation is very great on the part of most of us to interrupt him.

Mr. MERRILL. Personally I have no objection to explaining things as they come.

The CHAIRMAN. Undoubtedly it might be better to have the statement connected.

Mr. MERRILL. I wish to speak now concerning rates to consumers. It is a principle that rates are secondary always to service, that the prime consideration in any public utility business is to grant adequate service and, although rates should be reasonable, service is the more important of the two. In making a rate or fixing a rate for a public utility service there are two main factors that enter into the product, each of equal importance. One is the rate of return, which may be fixed by a legislature, by a court or by a public utilities commission. The other equally important factor in the product is the property capitalization, or valuation, which multiplied by the rate of return gives the gross price paid by consumers. Once lands or water rights which are in public ownership pass into private ownership, they become, under all the decisions of our courts, private property, subject to enhancement in value, and no court and no commission can fix a rate that does not take into consideration the fair market value of that property at the time the rate is made. That brings us, in my judgment, to the chief distinction between State and Federal functions in this matter of water-power development on the public lands, and its regulation. It is my opinion that the matter of regulation both of rates and of service is a State function, that it not only should be exercised by the State, but that it can be better exercised by the State, and that the Federal Government should assume such function only

in the absence of State regulation, and then only as an emergency measure. But there are certain features with relation to the capitalization, or the valuation, of the property upon which rates must be fixed which the States are powerless to handle. One of these is the matter that has been brought up here before you by persons who have testified on both sides with respect to the valuation that should be placed upon certain classes of property. It is my judgment that in matters of the kind we are now discussing the nation should supplement and not supersede the State; that the two should act together, the primary action, wherever it can be taken, being the action of the State; because the State, through its public utilities commission, is on the ground; because it has the information, and because it has the force to handle it. Except for extraordinary reasons, the State is the place where this work can best be done, and where it properly belongs.

It should not be forgotten that both the State and the Federal Governments are but agents of the public, that neither the one nor the other is an entity in itself apart from the public which it represents. We would have had many matters that have been discussed before this committee in much clearer shape and much better presented had we started from the position that these two Governments, State and Federal, are merely agents of the public, and had we remembered when we spoke about the Government charging rentals, the Government doing this and the Government doing that, that it is doing it only on behalf of the people who as a body can not do it in any other way.

I wish in this connection to refer to the section of the bill by which the regulation of interstate rates is conferred upon the Secretary. As I understand that language there is no option left with the Secretary, he must do it, there is no power left in any other agency than the Secretary to regulate rates, provided the power enters into interstate business.

I wish to read to you here a list of the corporations which would come within the purview of that language.

Mr. THOMSON. Will you give us the section you refer to?

Mr. MERRILL. It is in section 3 of the bill, which provides "that in the case of the development, generation, transmission, and use of power or energy under such a lease in a Territory or in two or more States, the regulation and control of charges for service to consumers is hereby conferred upon the Secretary of the Interior."

As I stated before, presumably this means that no one but the Secretary of the Interior would, after the passage of the bill, have authority to name the rates charged for power generated in one State and used in another State. When a power system includes generating stations in two or more States with interconnecting distribution or transmission lines, as is very frequently the case, it would be as impossible to determine whether the power crossed State lines, and if so how much, as to determine what particular lump of coal in a furnace generates the steam in any particular radiator, or whether a bucket of water in Chesapeake Bay came originally from the Potomac or the Susquehanna. It is my contention, Mr. Chairman, that the State has full and complete authority to do this regardless of where the power originates, that though this power may be generated in Nevada and

sold in California the commission of California can absolutely fix rates at which it may be sold in the State of California, and therefore that the provision of the bill is unnecessary.

The CHAIRMAN. You are getting us in pretty deep water right here; when you go to having local State rate fixing bodies fixing interstate commerce rates I am afraid we will have to depart from you.

Mr. MERRILL. It is not an interstate business in that sense. It is a service and not a commodity with which you are dealing. The corporation that is furnishing a service in the towns of Goldfield or Tonopah, Nev., although its power is generated in California, in my opinion, can be regulated by the Nevada commission just as effectively as though the power was generated in Nevada.

Mr. FERGUSSON. I think an important distinction is that it is a service and not a commodity.

The CHAIRMAN. When you cross the State lines the State rate fixing body goes up the spout pretty quickly, whether it is electric current charges or railroad freight or whatever it may be.

Mr. GRAHAM. When he reduces it to horsepower and kilowatt hours and watts, it sounds very much like a commodity.

Mr. MERRILL. Let me quote from the public utilities law of California:

> All charges made, demanded or received by any public utility, or by any two or more public utilities, for any product or commodity—and commodity comes in there because there are other classes of corporation than electric corporations—furnished or to be furnished, or any service rendered or to be rendered, shall be just and reasonable. Every unjust or unreasonable charge made, demanded or received for such product or commodity or service is hereby prohibited and declared unlawful.

As far as any discussion of the legal question is concerned, I will stop there.

Mr. GRAHAM. What is that from?

Mr. MERRILL. The public utilities act of California. I will go on with this now.

Mr. THOMSON. I trust you will not shorten your argument by reason of the situation.

Mr. MERRILL. That is all I had intended to say in that respect anyway. Under this section there would be conferred upon the Secretary of the Interior the regulation of rates to consumers of the California-Nevada Power Co., which supplies power in Nevada from plants in California. There would be included also the fixing of rates of service upon this company here [indicating] the California-Oregon Power Co., which has plants on both sides of the State line, and transmission lines across it.

The CHAIRMAN. I wish you would restate that; when you indicate on the map it means nothing in the record.

Mr. MERRILL. I will fix it in the record later if I may. I am indicating these simply because I happen to have here the map of the California transmission systems. It would also include the Truckee River General Electric Co., which supplies territory in Nevada, but which has plants on the California side of the line. It might include the Northwestern Electric Co., which has a plant in Washington, and supplies power in Oregon. It would include the American Power & Light Co., in Washington and Oregon; the Washington Water Power Co., which operates in Washington and Idaho; the Idaho-Oregon Light & Power Co., in Oregon and Idaho; the Utah Securi-

ties Corporation, in Idaho and Utah, and probably several others. But of the companies that I have named the installed capacity is around 400,000 horsepower, or more than is under regulation by any western State with the sole exception of the State of California.

Mr. SINNOTT. Would not the right conferred on the Secretary here enable him to set aside a prohibition of a State legislature against the exporting of power from one side to the other, and wouldn't it for that reason be a good power to reserve with him?

Mr. MERRILL. I think Mr. Sinnott, that is a legal question on which I would not care to pass even an opinion. I wish to make this further statement with respect to the question under discussion, that if regulation of rates is to be of any value whatever it must be done on the basis of full examination, of full hearing, and with full consideration of all the equities in the case. We have in the State of California a public utilities commission, which has power to control rates and service in that State. As I have just stated, under the language of this act the Secretary of the Interior would have authority over approximately as much water-power development as is now under the control of the California Railroad Commission. The reason that rate regulation in the past has fallen down is because so often it has not been based on a proper consideration of the equities of the case and has proceeded without a proper examination of all the evidence in the matter. It is for this reason that so many findings of municipal bodies, for example, have been set aside in the courts, or have been dragged on in the courts for years and years. It is on account of this situation that our States east and west have been passing public-utilities laws and putting these matters into the hands of commismissions with the power to act and with the power to investigate, and with the force and money to do it. My point in that respect is this, that if it is proper to confer this power on the Secretary of the Interior, I think a further matter for you gentlemen of Congress to decide is how it is to be effectively done. There must be organized in the department a public utilities commission, with power to hold hearings, compel attendance of witnesses and production of evidence, make valuation, audit accounts, and supervise operations, or else effective regulation can not be accomplished. About 150 formal complaints a year are made before the Public Utilities Commission of California. You can not expect that less will come before a commission organized in a department.

The CHAIRMAN. According to your theory these intrastate questions would not come before the Interior Department?

Mr. MERRILL. According to my theory they need not, but under the language of the bill they must.

The CHAIRMAN. You mean intrastate?

Mr. MERRILL. No, I am talking now about the interstate.

The CHAIRMAN. Do you think there would be as many as 150 complaints come to the Secretary of the Interior in a year on interstate questions?

Mr. MERRILL. Well, I have given you a list of these interstate corporations which have under their control approximately the same amount of power that is in the State of California under the control of the State Railroad Commission of California. That commission has approximately 450,000 horsepower under its control. There would be nearly as much under the control of the Secretary of the

Interior, and it would be scattered from the Canadian to the Mexican boundary and from Colorado west to the Pacific.

The CHAIRMAN. They are not all interstate, though, are they?

Mr. MERRILL. The ones that I have named; yes.

Mr. TAYLOR. Wouldn't it involve very great expense for them to come to Washington to take those matters to the Secretary of the Interior?

Mr. MERRILL. You can not do it otherwise. It would also involve great expense to make the investigations necessary to determine rates. I am predicating this argument entirely on the proposition that if you are going to regulate rates you are going to regulate rates and not make a halfway attempt to do it. That has been done in the past by local legislative bodies, such as municipal councils, before the day of public utility commissions. That method has fallen down everywhere it has been tried, and it most certainly should not be repeated by any executive department of the Federal Government.

It is provided by the language of this bill that these powers shall be conferred upon the Secretary of the Interior, or such commission—or whatever the term may be—as may be provided by law in the future. If these matters should be turned over to the Interstate Commerce Commission or a similar body, the matter of the formation of an executive board, or the question of additional costs, would disappear.

I wish also to call attention to one other provision in the bill, which has been more or less discussed here. Section 4 provides that: "No lease issued under this act shall be assignable or transferable"; but I refer particularly to the following language, "and no sale or delivery of power to a distributing company shall be made, except upon the written consent of the Secretary of the Interior."

Note in connection with this provision that the bill applies only to those States in which there are at the present time public utilities commissions. Either one or two things must happen in pursuance of this provision. Either the Secretary of the Interior must follow automatically the approval of the State railroad commission—for these contracts all require such approval—or he must act contrary to and overrule the State utilities commissions. The former would be a useless formality, the latter an unwarranted interference with the exercise of State regulation. My position is, that where public utilities commissions are in existence——

The CHAIRMAN. I wish you would amplify that a little. I can not keep up with you on that proposition.

Mr. MERRILL. What I just said?

The CHAIRMAN. Yes.

Mr. MERRILL. I stated just now that either one or two things must happen under that provision, in consideration of the fact that the bill as drafted applies only to those States in which public utilities commissions now exist. The question of making contracts for the sale or delivery of power or any matters in relation to service within those States is already within the power and purview of the State public utilities commissions, and those contracts must be approved. Now one of two things happens under the provision here, either the Secretary follows the lead of the State railroad commission and approves the contract that the commission approves, in which case

it is only unnecessary action, or he must go contrary to what the public utilities commission has done, and overrule its action.

The CHAIRMAN. A better way to put that would be the power is imposed on the Secretary to do that in any way he likes.

Mr. MERRILL. This provision is mandatory.

The CHAIRMAN. He must act before transfer can be made.

Mr. MERRILL. Yes; I am speaking in this connection only about making these provisions mandatory, Mr. Chairman. I shall have something else to say about making them permissive. There are several forms of contracts which would be covered under the provision of section 4 as originally drafted. I will call your attention, however, to what I believe should be considered the definition of a distributing company; namely, that any company which delivers power, whether it generates it itself or purchases it, to any consumer thereof, is a distributing company. It makes no difference whether that company is the lessee and delivers the power to a distributing company, or is the distributing company to which a lessee sells, the language, in my judgment, would apply whether either one of the parties to the contract was the distributing company. It is the common practice, particularly in the Western country, and from what Mr. Finney said, it is apparently the same in the Southern States, for certain companies to generate power and sell to others. It is also a practice for plants to be interconnected for the delivery of power at times of low water, and also for what is known as "breakdown" service, or where one concern delivers power to another in an emergency. Under the broad language of this section, Mr. Chairman, no company could deliver power under such conditions, where an hour is too long to wait, without having first secured the approval of the Secretary of the Interior.

I will give you just one example. Although the Pacific Gas & Electric Co. of California at the present time does not come within the purview of this act, it would so come should it secure any lease at any time on any of the public lands of California. That company buys power regularly from the Great Western Power Co., and the Northern California Power Co. exchanges power with the Snow Mountain Power Co., and has a "breakdown" service arrangement with the Sierra & San Francisco Power Co.; it sells power to the Oro Electric Corporation, the Coast Counties Gas & Electric Co., the Western States Gas & Electric Co., and the California Telephone & Light Co. Every arrangement of such nature which has been made in these cases, or which might be made in the future, should that corporation occupy any public lands, would come under the mandatory provisions of this section.

Mr. RAKER. It would not come under it the way it is amended, though. I refer to the suggested amendment.

Mr. MERRILL. No; I am talking about it as originally drafted, and giving the reasons why I think the amendment should be made. In my opinion, as I stated before, these matters of regulation of rates and of service can better be performed by State commissions, when such are in existence; and that there is the place where they ought to be performed, because regulation is a distinct function of State sovereignty. Beyond that I believe that the power should be reserved in the Secretary of the Interior, or whoever administers the act, to take action in emergency cases, upon proper appeal from State authorities

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or from local authorities, whenever there is no local body to take action, or if the State law breaks down. But I believe that it should be an emergency procedure and not the ordinary procedure.

I will pass now to the consideration of section 9, which was stricken out in the amendment presented by Mr. Pierce.

Mr. SINNOTT. We will take up section 5 later?

Mr. MERRILL. Yes. I have prepared and exhibit to you a map[1] of the United States in color. The yellow area indicates the States in which there is no public land; the territory in red and in orange represent the States in which there is at the present time a certain amount of public lands. Those colored in orange are the only public-land States in which there are public utilities laws and public utilities commissions. Under the provisions of this bill as drafted the only States which have any water power of consequence and to which the act would apply are Montana, Idaho, Washington, Oregon, and California. Kansas and Oklahoma have none; Michigan has none of consequence, and Nevada none of consequence.

Mr. RAKER. All the rest of the United States have no public utilities commissions at all?

Mr. MERRILL. I have not indicated them, as far as the yellow area is concerned. I do not believe it either advisable or necessary to attempt by a punitive Federal statute to dictate the political institutions of any State. I say, as I said before, that the power should be reserved in the Secretary of the Interior, or whoever administers the act, to take action when necessary in any of the States which have not a public utilities law, or in States which having such a law do not enforce it. But I doubt seriously the advisability of excluding any State, because it has no public utilities commission, from the operation of this act. It might further be added that the mere fact that a State has a public utilities law may mean but little. The State of California for many years had a railroad commission law, and had a railroad commission, but as far as any real regulation was concerned, both the law and the commission might have been nonexistent. I do not know what the character of the commissions is in the greater number of these States which have them. I believe Oregon has a very good commission; I know that California has a first-class one. About the other States I have not the information. My point is simply this, that if the dividing line is going to be drawn on the proposition, that when there is State regulation this law applies, and when there is no State regulation it does not apply, what are you going to do about the States which on paper have regulation but which in fact have not?

The CHAIRMAN. Does that not depart a little from the general statement that you insist that the States that did have it would not leave much for the Federal Government to do?

Mr. MERRILL. No; because my general statement is this, that I would have the power always reserved in the Federal Government to act in the absence of State legislation or in the failure of State legislation, but I would leave it wholly to the States where effective State or local regulation exists.

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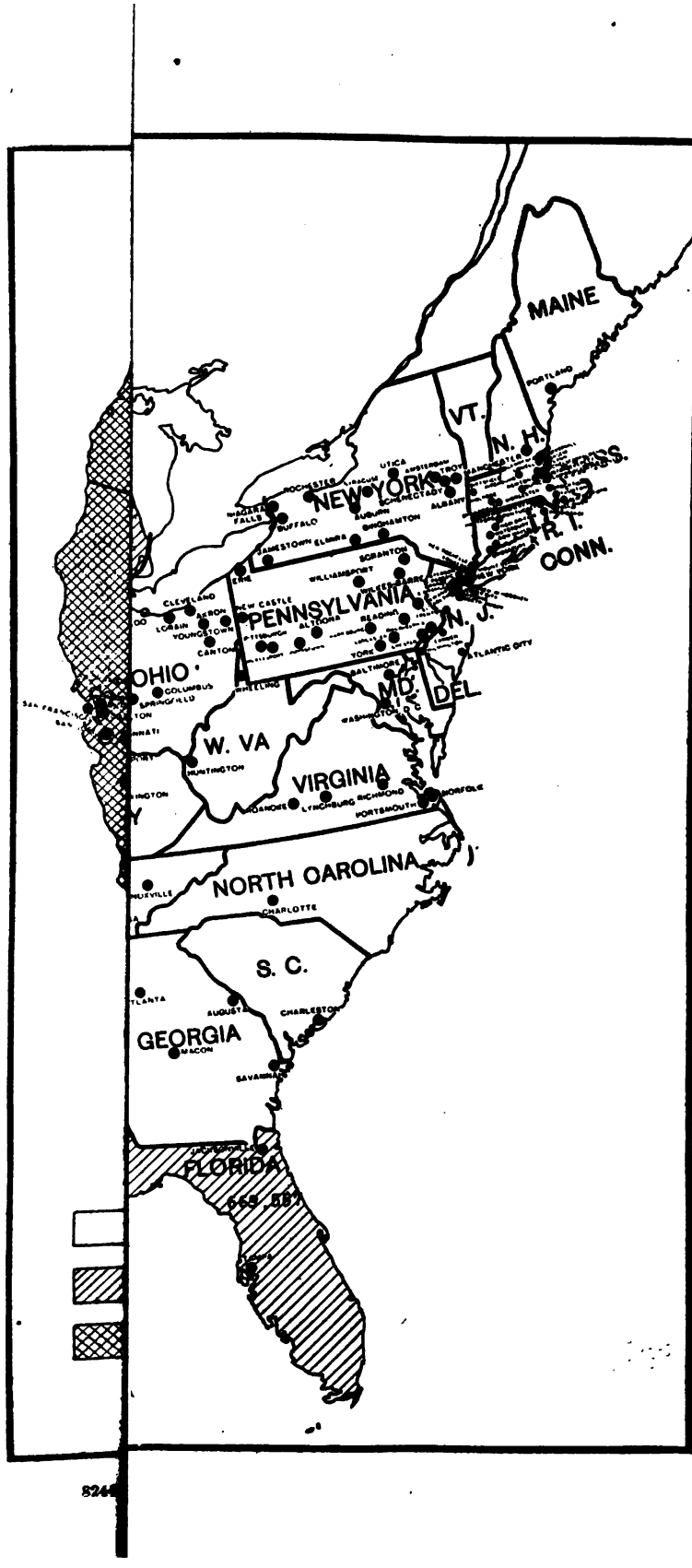
[1] Referring to the map, it will be noted that the yellow area is shown as ☐; red and orange, ▨; orange, ▩.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BINGHAMTON
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WILLIAMSPORT
CLEVELAND
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NEW CASTLE
PITTSBURGH
ALTOONA
READING
YORK
BALTIMORE
ATLANTIC CITY
COLUMBUS
SPRINGFIELD
HUNTINGTON
WASHINGTON
ROANOKE
LYNCHBURG
RICHMOND
PORTSMOUTH
NORFOLK
CHARLOTTE
AUGUSTA
CHARLESTON
MACON
SAVANNAH
JACKSONVILLE

The CHAIRMAN. Who determines whether the commission is of any account or not?

Mr. MERRILL. I consider that that will not arise except upon complaint either of the State itself or of citizens of the State.

The CHAIRMAN. We can see the mote in the brother's eye always easier than we can see it in our own eye. Of course every State would be prone to uphold its own institutions. I think, perhaps, a few of the States have commissions which are not effective, and do not accomplish what is intended to be accomplished. This would leave the Interior Department as a court of last resort, or appellate court. So the question is, Who would have the right to say the commission of any given State is efficient or inefficient?

Mr. MERRILL. There would be nobody but the Secretary of the Interior, because he is under contract with the lessee.

Mr. GRAHAM. Do you think a provision in a Federal law, such as is contained in section 9, is in the nature of coercing a State? If a court says that pertaining to a certain matter that matter shall be handled in a certain way if the State has no means for so handling it, do you think that amounts to coercion or any invasion of the sovereign rights of the State?

Mr. MERRILL. My position is practically this, Mr. Graham, that in my opinion the matters covered in the regulation of rates and of service are primarily a function of State sovereignty, and when the Federal Government takes action in intrastate cases it must do so solely by right of contract. I should feel, were I a citizen of an excluded State, and wished to come under the provisions of this bill, that it was a case of coercion.

The CHAIRMAN. It smacks of that a little on the face of it, but we are not without precedent on that. Congress passes laws that whatever State will may take advantage of. Every law, nearly, is only available to those who take advantage of it.

Mr. MERRILL. I would simply answer this, that is not laying a condition upon the use of the public property but upon the users of such property.

The CHAIRMAN. For instance, we passed a good-roads bill the other day in the House; it has not become a law yet, but the House is fairly committed to it. There was only a handful of Members who passed it. We said there you may have a certain road, provided you raise an amount equal to that furnished by the National Government; that to do certain things you must comply with certain conditions.

Mr. MERRILL. My answer to that particular illustration is that I do not consider it parallel. Suppose you had provided in that act that you would spend a certain amount, not under the condition that the State raised money, but that it should provide a particular kind of State highway board?

The CHAIRMAN. I do not have the language before me, but I rather think there is something in the roads bill to that effect.

Mr. TAYLOR. Will you permit a suggestion? As I recall it, Mr. Smith said yesterday, and everybody has said, that these revocable permits prohibit development. I think everybody concedes that. We all know it is true whether we concede it or not.

The CHAIRMAN. That is agreed to everywhere.

Mr. TAYLOR. As I started to say, I think Mr. Smith's statement was that one reason why they were not granting permits more freely or giving them more leeway, as I recall it, was that they hoped to bring about this kind of regulation. Was it not something to that effect?

Mr. SMITH. Mr. Smith did not say that; not while I was here—or anywhere else.

Mr. TAYLOR. When you were testifying yesterday, did you not say something to the effect of your very much desiring and anticipating this kind of legislation, and that that is one reason why there is so little development at the present time?

Mr. SMITH. Because the people did not want to develop under that act; it was not prohibitive, but discouraging.

Mr. TAYLOR. Assuming for the moment that that is the condition——

Mr. SMITH (interposing). There is no hold-up, you know.

Mr. TAYLOR. All right; we think there is. Of course you say there is not; but supposing the conditions are that the West is not developing as it should—and you present this kind of a bill saying this shall not apply to that State until it has a commission—why, does it not amount to compelling them to come within the law and create a commission, or possibly not only not have any development but not have even permits of any kind hereafter?

The CHAIRMAN. You could proceed under the old law, I suppose.

Mr. MERRILL. I wish to add this one more observation with respect to the fixing of rates and service.

This is a function that a State can assume at any time. The fact that any State or any group of States do not regulate to-day does not prevent them from regulating fully and completely to-morrow, or at any other time that they see fit. It is a sovereign right that can never be lost. But when it becomes a question of the transfer of property from public to private hands, the matter is one over which the Federal Government alone can exercise control; it is a matter beyond the reach of a State. If the public lands once pass into the private ownership, either by patent or by such a form of grant that it can be capitalized, the act is irrevocable and you can not correct it except by direct confiscation.

I want to discuss now—I almost said briefly, but I am afraid that word will not apply—the question of rental charges. There are four reasons for which rental charges might be exacted for the use of public lands—one to secure funds for administrative purposes only; the second to secure what I have spoken of before, the economic rent; the third to get general revenue for the Federal Treasury; and the fourth as a punitive measure to enforce regulation of rates and of service by the lessee or grantee. To the last two, rentals as a punitive measure or rentals for the purpose of general Federal revenue, I am entirely opposed.

Under the present organization that is handling the work I believe the charge should be one for administrative purposes only. If we had the machinery to do it, and if we could require accounting systems so that we could know what the returns and what the investments are—under such conditions the equitable logical and effective basis would be the one which I was discussing awhile ago, an illustration of which I put into the record, the economic rent. The reason is

this, that the economic rent represents the surplus return upon the actual value of the power site to the man who is using it. The return that the public would get for the public lands if it took all the rent is just the amount that the man using them would get if he owned them himself. The economic rent as the basis of charges has this distinction, that none other has, it does not increase rates to consumers. I know Judge Raker is going to take exception to that, but if you will let me pass it, I will take it up later.

Mr. RAKER. No, sir; I am with you.

Mr. MERRILL. Then I was mistaken.

We come now to a discussion on the question of readjustment of rates during the period of lease. As I said when I started this morning, any uncertainty that goes into the lease is capitalized, and we not only pay interest on it, but we also pay many times over what we get directly out of it. I do not believe in putting any rental provision in any lease without definite limitations. If the machinery were at hand for doing it, I would put the limitation as I have illustrated in the papers which I have presented to you on the earning value of the public lands considered as a part of a going concern; in other words, I would make their economic rent the maximum limit of rental charges. When that is done, if for any reason rates are lowered and gross receipts are lowered accordingly, the rental drops automatically in the same proportion.

The CHAIRMAN. Do you mean that you would only charge 4 or 5 per cent for the value of simply a quarter acre of land?

Mr. MERRILL. Not by any means, Mr. Chairman, on the value you have in mind. That was not my statement, but interest on the value on these lands as a part of a going concern as illustrated in the tables which I presented to you, and these values are as far apart——

The CHAIRMAN. Would it not be better to amplify that a little? You are on very tender ground right here; you had better be a little careful on that proposition. Amplify that a little, so we will know just exactly what you do mean.

Mr. RAKER. When I answered a while ago I did not understand, I thought he meant the value of the land. [Laughter.]

Mr. MERRILL. I do mean the value of the land, but I fix it in a different manner than you would.

Mr. THOMSON. Better fix the record.

Mr. MERRILL. The point which I mention, as to site value of the land was presented here earlier in the discussion. You will find that values are estimated in this manner whenever examinations and reports are made for private purchase or for investment.

Mr. RAKER. Just take a concrete case and illustrate it. I seem to be very dense on that.

Mr. MERRILL. I will take a concrete case then. I will assume here that this project, the Pacific Light & Power Co, is on the public lands and nothing but the public lands; that that company is getting $100 a horsepower gross returns each year on its total development; that all of its annual charges of every sort, interest alone excepted, are $64, leaving a net revenue of $36. Now, as a business proposition an investor going into that undertaking can afford to invest as much as will give him the current rate of return, and I have assumed in the example that the current rate of return is 12 per cent. Then that business is worth to him $36, capitalized at 12 per cent, or $300

per horsepower. He could afford to put that much money into it. It is assumed that he has actually put in $250, which is the cost per horsepower of everything that he has invested in this property. The balance then of $50, the $300 less the $250, is what he could afford to pay for the lands and other rights up there if he had to buy them outright, and if he did so earn 12 per cent on his investment. Do I make myself clear so far?

The CHAIRMAN. But who are you able to convince by your course of reasoning? You can not in the law use a lot of fine theories like that. You can not inject that into the law. You would have to lay down a rule of appraisement of some sort, and they would appraise the lands, under your statement, if I understand you rightly, at probably about $1.25 an acre, and then pay 4 or 6 per cent on that amount of revenue from a dam site, which would be about 3 cents per 1,000 years, I would imagine.

Mr. MERRILL. According to my statement it would not be appraised on any such value.

The CHAIRMAN. How are you going to get a court to adopt your course of reasoning and follow it out if that is the legitimate way to arrive at the true value of the dam site?

Mr. MERRILL. I would do it by contract.

The CHAIRMAN. You mean at the time of entering into the contractual relation you would lay down what the present value of it would be?

Mr. MERRILL. No; what the rule should be for determining from year to year the value of the property in the business.

The CHAIRMAN. Put that in the lease, would you?

Mr. MERRILL. Put it in the lease.

The CHAIRMAN. You would put in the lease what the value of the property was and how the return or the rental or the royalty would be calculated on a sliding scale, according to the earning capacity of the plant, is that the thought?

Mr. MERRILL. Not exactly.

The CHAIRMAN. I think you had better go over that again, unless the other members of the committee are clearer headed than I am. I can not keep up with you.

Mr. SINNOTT. Is that your method of arriving at the market value of the property?

Mr. MERRILL. That is my method of arriving at the market value of the property for that purpose.

Mr. THOMSON. Based on their receipts.

Mr. MERRILL. Based on receipts, because the value of a property in a going business means nothing else than the power to earn a return.

Mr. THOMSON. Certainly.

Mr. RAKER. In this plant up in the northern part of California, they have certain rights of way and they occupy certain land in the forest reserve. Can you give us some concrete illustration of how it would work?

Mr. MERRILL. I was attempting to do so and applying it to the Pacific Light & Power Co. case.

The CHAIRMAN. Let us go at this A B C like, so that we can catch up, because there is no use to sit here like bumps on a log and not understand what he is trying to give us here, because this is an impor-

tant matter. If the Government owns 100 acres of land and the company has to buy 900 acres of land from private interests, and on that area of land they have to spend $5,000,000 in money, tie up all that for machinery, equipment, and appliances, what on earth are we to get for the 100 acres that we furnish as an integral part of the entity, which as a going concern produces a certain amount of electricity?

Mr. MERRILL. I only wish, Mr. Chairman, that I had a blackboard; I think I could work the problem out for you.

Mr. THOMSON. May I ask a question, for my own good, to see whether I understand this myself. As I understand it, you are indicating what the public land that the company uses should be considered as being capitalized at, based on their charges to the consumer?

Mr. MERRILL. Based on their earning capacity.

Mr. THOMSON. And you reason that backwards from the income that they get, back to the source, namely, the public lands?

Mr. MERRILL. Yes.

Mr. RAKER. That is going backwards.

The CHAIRMAN. About all we can do is to go forward.

Mr. TAYLOR. You take the amount of money you get, and then you reason back as to what they get it from.

Mr. JOHNSON. It seems to me it is requiring a percentage on the whole investment, whether it is Government land or not.

Mr. MERRILL. This is what you might do. Under present conditions name a definite amount in each lease and stipulate that the applicant or lessee should have the right at any time, on the making of a showing that the rate charged him is more than it should be, to have his rental reduced to an amount determined as I have suggested.

Mr. RAKER. Now, Mr. Merrill, right in this connection——

Mr. MERRILL. I have considered that in these examples.

Mr. RAKER. Let me make this suggestion: It is a necessary integral part of this plant. Now, he buys other land, 900 acres, and he buys water rights and gets rights of way, and pays for surveys and all those things. Now, just illustrate to us here how much he ought to pay the Government for that 100 acres. That is what we are trying to get at.

The CHAIRMAN. Yes; what I am trying to get at is what the appraisement would be.

Mr. THOMSON. I think if he goes over the illustration again we may get it.

The CHAIRMAN. There is one thing about it we want to get at that I am more interested in, and that is this: I want to know whether you are in favor of fixing the rate or having the Secretary do it, in advance of the term that the lease is to run, and if not, at what particular intervals are you in favor of having the rate revised either up or down?

Mr. MERRILL. I will answer that in connection with what I am saying.

The CHAIRMAN. I would like to get right at that thing.

Mr. MERRILL. I am not in favor of having the rate fixed in cents per horsepower throughout the life of the permit.

The CHAIRMAN. All right; when would you revise them—at what intervals?

Mr. MERRILL. I would advise intervals of not less than 5 years, and probably 10 years before any revision.

The CHAIRMAN. You can not keep them in the air all the time; you can not haul them up on the carpet every day and revise their rates and have the concerns amount to anything. You give the patient too much medicine.

Mr. MERRILL. I said that I would do this only with the definite limitation that the rental could not go beyond a certain definite limit. I am discussing here a definite limit beyond which any rental charges should not go.

The CHAIRMAN. Not for the bill, but for the lease, you are talking about.

Mr. MERRILL. For the lease.

Mr. THOMSON. In other words, you provide during the term of the lease it should not be less than so much or more than so much, and every 5 years or 10 years there might be a revision between those points.

Mr. MERRILL. I would fix it like this. We can name a definite amount, to run 10 years. I would give the option to the lessee at any time during the 10 years to come in and make a showing that the rate charged is too high—that it does not permit him to make a reasonable return on his investment—and I would revise it instantly if he made a proper showing.

The CHAIRMAN. You would reserve the right to revise it up as well as down?

Mr. MERRILL. I would not revise it up oftener than once in 10 years, and I would not revise it up except with this definite limitation beyond which I could not go.

The CHAIRMAN. Of course I have some quite different notions about that proposition.

Mr. MERRILL. And I would not even do that unless I had the machinery for handling it in the way I have suggested.

The CHAIRMAN. For instance, we take up the tariff here about every 10 years; we tear business all to pieces with it, and I think there are many people who would like to have it remain quiet for longer periods after we do adjust it. I do not think anybody would want to have the country called up on the carpet and harassed and thrown into frenzy every year, and I do not think that you would get the development that we all hope for in the face of your statement of yesterday of the great amount of power in California, I do not think you will get the development you expect unless you at least let them know in advance what you are going to do with them. Would that not have the same effect as a revocable permit?

Mr. MERRILL. My answer to that is, Mr. Chairman, that the proposition I have here I do not consider an indefinite one.

The CHAIRMAN. It for the moment seems so to me.

Mr. KENT. Mr. Chairman, it seems to me what Mr. Merrill is stating is practically giving this fellow 12 per cent on his investment before we can take anything out of it.

The CHAIRMAN. There is no way to figure 12 per cent on the proposition.

Mr. KENT. His condition does not operate until they get the 12 per cent.

The CHAIRMAN. There is no 12 per cent on the land they get from us unless you can first arrive at a definite plan of determining what you will let them have.

Mr. THOMPSON. I do not think the chairman and Mr. Merrill are very far apart.

Mr. MERRILL. I have not made it clear perhaps. The first part of this example is simply a method of determining what the value of that land would be if it were purchased by a man who wants to use it from a man who knows what it is worth, and then after we have determined the value of the land on the basis that it is part of an operating property we will say that the Government stands in the position of your bondholders, and it will lend you this property and charge you bond interest on it and nothing else.

The CHAIRMAN. That is the plan?

Mr. MERRILL. That is what I mean by it. It has to be gotten at in a method like that.

Mr. JOHNSON. I understand then that the interest is simply the interest on that portion of the land which comes from the Government itself; in other words, let me state a concrete case. Suppose a company has a property worth $10,000, as an illustration. The dam site, or the property which they get from the Government, is worth $1,000. The other property which the company has purchased in the way of rights of way for distributing purposes, and so on, is $9,000. Now we go on and build the plant and supply the light and pay the expenses, as you have suggested, and there is $100 net profit, after the interest on the investment has been paid, everything has been paid, there is a net profit or surplus of $100. What portion under your theory would the Government be entitled to out of that?

Mr. MERRILL. They have earned, as I have stated it, 12 per cent on their entire investment.

Mr. JOHNSON. Yes, we pass all that up, those expenses have all been paid, the Government has furnished, by a prior valuation, 10 per cent of the value of this plant in its power site, and the net earnings after all the expenses are paid are $100. What portion of rental would such an institution be liable to the Government for under your theory?

Mr. MERRILL. My only answer to that is that I disagree with you on the original application. My example was for determining the value. You have assumed it at the start.

The CHAIRMAN. Assuming that.

Mr. JOHNSON. Make the valuation anything you please.

Mr. MERRILL. I can not do that, for the reason that it might not apply. I could not assume the value as the first step in determining what it is.

The CHAIRMAN. Assume his basis. There is no reason why you can not assume what Mr. Johnson states. He assumes that the dam is worth $1,000, you assume that it is worth $9,000; no matter what the values are, under your hypothesis and under your theory, what per cent of the $100 in earnings in Mr. Johnson's case would go to the Government—$10?

Mr. MERRILL. No, under this theory it would be $50, for this reason, that under his proposition they are paid twice bond interest rates for their investment in the property, and when that is done if there is any surplus out of gross earnings that is what is known as the economic rent, or the return upon the site value of the land occupied—the $100 of Mr. Johnson's example. They have been paid 12 per cent interest on all the property they have invested there. The

$100 is the surplus out of which must be paid any return to the Government for the use of its lands, and if we assume that the same interest rate is applicable to the Government lands then their value is $100 capitalized at 12 per cent, or $833, not $1,000 as was assumed at the start. I have proposed that the Government rental should be computed at bond-interest rate upon the value so determined. In this example it would be 6 per cent on $833, or $50. That is, it would be one-half the surplus of $100.

Mr. TAYLOR. And that $50 would go to the Government?

The CHAIRMAN. I believe Mr. Johnson has a case that at least some of us can catch up with. Mr. Johnson's case is this: It is a $10,000 plant. One thousand dollars of it is the value of the dam. We just assume that however outrageous it may be. We will assume that the dam is worth $1,000. The company spends $9,000 to develop it, pay for machinery, etc. They go on and operate, sell their rights to the local community. At the end of the year they balance up, they pay the operating expenses—and let us borrow his suggestion of 12 per cent—and they pay 12 per cent on the investment. They have $100 left. What would you do with the $100; what part of it do we get, owning one-tenth, leasing one-tenth of it to the company?

Mr. MERRILL. I could only answer that, Mr. Chairman, as I answered it before, that the example he puts up is not comparable to the one here, because he is using a valuation before the fact, and I am providing for a valuation coming from the fact. The Government would get one-half the $100, but the value of its property would not be $1,000, for if it were, it would be earning $120, with the assumed interest rate we are using.

Mr. THOMSON. He determines what the value of the public land is, the dam site, and in Mr. Johnson's illustration he finds out what that is from the receipts, from the amount the company is getting. Now this dam site is leased to the company; how do you determine that that is worth $1,000?

Mr. JOHNSON. Let us determine it is worth $5,000; it makes no difference.

Mr. THOMSON. Mr. Merrill's illustration was showing how you arrive at that value.

Mr. GRAHAM. The determination of the value is based upon the 12 per cent interest which the company got and the $100 net surplus.

Mr. THOMSON. Can you not do this——

Mr. GRAHAM. Get the value from the results.

Mr. THOMSON. Take Mr. Johnson's illustration, $10,000 corporation, paying 12 per cent, with a surplus of $100, can you work that back, and following your other illustration there what would you say the dam site was worth?

Mr. MERRILL. The difficulty has been in making the comparison. Mr. Johnson's figures include interest, and they are not net revenue, but they are net surplus. The only way that you can determine total valuations on the basis of earning capacity is by capitalizing net revenue and not net surplus. If the surplus of $100, however, is over and above a return of 12 per cent upon the actual investment, not the assumed valuation of the company's property, then the value of the dam site is the $100 capitalized at 12 per cent on $833.

Mr. JOHNSON. Let me ask you this question then. In that kind of a case, you consider that the Government ought to collect a rental value not only for its dam site, but from the transmission lines and all other property belonging to the company under private ownership?

Mr. MERRILL. Not upon the investment in such property, because I have specifically provided in this illustration that every dollar they put in should be considered and be paid for before the Government should come in at all. If rates are properly regulated in the States there will be many instances in which not a cent will come back to the Government.

Mr. THOMSON. May I ask this question: In your illustration you reason back to the public lands that are being used by the company, you determine their capitalized value, and reaching that result you base the amount that they are to pay the Government on that?

Mr. MERRILL. On the capitalized value of the public lands, on the same basis that the other capital is handled?

Mr. JOHNSON. I might give you another illustration, if you will pardon me, in actual value. A certain power company spent $10,000 in the construction of its plant. It occupies a very small piece of Government land, not exceeding two-thirds of an acre. The power plant and the transmission lines and all its other improvements are on private and not on Government land. The piece of Government land which it occupies, as I say, is a very small fraction, just for the ditch, and they have a net earning of $1,000. What portion of that net earnings should be paid to the Government? In other words, what rental should they pay under those circumstances?

Mr. MERRILL. How much was the investment?

Mr. JOHNSON. The investment was $10,000.

Mr. MERRILL. And the net receipts are?

Mr. JOHNSON. The net receipts over and above all expenses was $1,000.

Mr. MERRILL. On the interest basis that I have used here, on net receipts of $1,000, the capitalized value of that property would be $8,000; they have spent $10,000, and the Government would not get a cent.

Mr. JOHNSON. I can not understand that.

Mr. MERRILL. I am afraid I have gotten the committee into deep water, Mr. Chairman. But the difficulty seems to be in our understanding of the term, net receipts. I have taken net receipts, or net revenue, to mean that portion of the gross receipts which is left after all expenses, except interest on the investment, have been paid. The net receipts, or net revenue, remaining after interest has been paid, I have called the net surplus. There will be two entirely different answers to Mr. Johnson's question, according to whether his $1,000 is net receipts or net surplus, as I have defined them.

Mr. FERGUSSON. This 12 per cent is taken out before the Government gets anything?

Mr. MERRILL. Yes, because in that last example they would not be earning 12 per cent, in which event there would be nothing coming to the Government.

Mr. THOMSON. Instead of giving your answer to Mr. Johnson's question in one sentence, can you reason it out?

Mr. MERRILL. Mr. Johnson's case is simply a $10,000 investment with $1,000 net receipts. Now the value of any property as a going

business concern is the capitalized value of its net receipts. One thousand dollars capitalized at 12 per cent is $8,333. They have invested $10,000 in that property. Therefore, $1,000 is less than 12 per cent; it is 10 per cent on their investment, and therefore there is nothing to pay to the Government.

The CHAIRMAN. On that theory would you permit every company that had a dam site leased from the Federal Government to fully amortize before they paid us a cent?

Mr. MERRILL. No.

The CHAIRMAN. Why do you say they do not pay anything to us?

Mr. MERRILL. It is earning less than what you allowed to be a fair return, for we are assuming the fair return in the example as 12 per cent. Unless they are earning this 12 per cent on their investment in the property then there should be no Government rental.

The CHAIRMAN. We are not much of a partner in that transaction?

Mr. THOMSON. May I ask whether he can answer your question by an illustration; take that same case and assume that instead of $1,000 they make $2,000.

Mr. MERRILL. We will assume that they make $2,000.

Mr. THOMSON. Mr. Chairman, in answer to your question I am suggesting an illustration to be used.

Mr. MERRILL. With net receipts of $2,000, that capitalized at 14 per cent would be $16,600. They have invested in that property $10,000. There is $6,600 remaining, which on the basis we are discussing is the capitalized value of the power site, and on that basis they would pay as rental 6 per cent interest, or half the 12 per cent, on the $6,600 valuation, or $400.

Mr. THOMSON. Then they pay the Government 6 per cent on $6,000?

Mr. MERRILL. Yes, sir.

Mr. TAYLOR. Because the Government is furnishing them property whereby they can make more than a fair rate, and more than 12 per cent, and therefore the Government ought to get that unearned increment, as you might say?

Mr. MERRILL. That does not go into the Treasury; I propose that it go back to the State, where it ought to be anyhow.

Mr. CHAIRMAN. I ordinarily do not have as much trouble as I am having now.

Mr. THOMSON. In that illustration the dam site would be capitalized at $6,000.

Mr. MERRILL. I am afraid I got everybody into deep water yesterday, and deeper water to-day.

The CHAIRMAN. Can not we assume that there is a dam site which is worth $1,000, in the United States, and can not we assume $9,000 would be——

Mr. THOMSON. Right there you begin to get into trouble, you are assuming the result.

The CHAIRMAN. Tell me who on earth would ever spend any money if they had to wait until the plant was a going concern and after it had been tried out 8 or 10 years before they could tell what the value of it was?

Mr. THOMSON. They can not reach that result on the hypothesis——

The CHAIRMAN. They can not reach it in the air.

Mr. MERRILL. On this proposition, Mr. Chairman, the contract arrangement would be that they would be entitled to twice the bond interest before any charge began, unless it was merely a nominal administrative charge.

Mr. RAKER. Suppose they had to pay back the original capital, would they have to pay the Government interest on that too?

Mr. MERRILL. The original capital that they put in?

Mr. RAKER. Yes.

Mr. MERRILL. Depreciation?

Mr. RAKER. Yes.

Mr. MERRILL. No; depreciation reserves are included as a part of the cost of operation.

The CHAIRMAN. How is the rate-fixing body going to determine rates on that scheme of yours?

Mr. MERRILL. Let me ask you first how a rate-making body can determine rates on any other basis. If they assume at the start the valuation of a franchise for example, and say because you are earning 9 per cent your franchise is worth $100,000, and then from the $100,000 valuation try to determine what the fair return should be, what result will they reach?

The CHAIRMAN. That scheme of yours must be defective for this reason. Here you reward incompetence and you punish efficiency and earnestness, but the man who uses his property wisely and earns something with it, you penalize, and the man who fritters away his time and his machinery, he would have no return to pay.

Mr. MERRILL. The assumption is that this would be done under regulation, and that it is——

The CHAIRMAN. It is too hazy.

Mr. MERRILL. The rule is put in there only as a limit above which you can not go. It can not, of course, be done unless you have the machinery to handle it and the information upon which to act.

The CHAIRMAN. We need some simpler showing of what the regulation is. Do not spend any more time on me. Go ahead.

Mr. RAKER. You are not the only one, Mr. Chairman. What would you do with the amount after the party had been paid his 12 per cent; suppose you had a fund of $10,000, where would that go to?

Mr. MERRILL. What would be the disposition of the earnings?

Mr. RAKER. Yes.

Mr. MERRILL. May I leave that for the moment? I will take that up later.

Mr. RAKER. How much of it would go to the Government?

Mr. MERRILL. Determine the capitalized value of the site on the basis of the earnings of the company, which is the only method by which you can determine the valuation of any operating property; having so determined the valuation of the property as a unit, public land, private land, and everything in it, you would subtract from the capitalized value the entire investment that had gone in there, and base your rental charges on the bond interest rate on the remainder.

Mr. THOMSON. The balance would be surplus?

Mr. MERRILL. The balance would be net surplus.

Mr. RAKER. Who gets that net surplus now; does it go into the company for dividends?

Mr. MERRILL. I will show you a little later where it does go. But apart from what the method shall be, Mr. Chairman, I believe it is

essential that in any lease or law, one or the other, there must be fixed by some means a definite limit, either in amount or in what method or manner you wish, beyond which the rental charges can not go.

The CHAIRMAN. At the time of the contract?

Mr. MERRILL. At the time the contract is made.

The CHAIRMAN. Let us agree on something that we will know how to work out. You are in favor of fixing at the time the temporary permit issues, at least have the Secretary decide in each particular case what in the best judgment of the Secretary it should be fixed at, and what he can get power people to give for it at that time, in each case?

Mr. MERRILL. If I did it myself and had the full authority, I would do this, I would name in the lease at the time it was issued a nominal rental charge, only so many cents per horsepower; I would let that run for 10 years in any event, and then I would have the limitation in there that in case the surplus over and above a fair return were not taken by State regulation after the 10 years limit was up that the Federal Government might take a proportion of those surplus revenues and turn them back to the States. There is practically the proposition. But I would put the rate high enough so that there would be no possibility by this means of preventing the company earning a fair return on every dollar in there.

The CHAIRMAN. Let us go right straight at the question here, which we will have to do when we take this bill section by section, on the issuance of permit; you would have the Secretary, under the law, fix something to fit the case. Now how often during the life of a 50-year term, which is conceded to be the term that we want, would you have the Secretary haul the people up on the carpet and say, we are going to revise and readjust these rates; how would you do that?

Mr. MERRILL. I would not have the period shorter than 10 years.

The CHAIRMAN. Would you have it as short as that?

Mr. MERRILL. If I were going to divide it up into periods I presume I would name about that——

The CHAIRMAN. Let me follow you a little more; what would be the maximum in the lease then beyond which the Secretary could not go?

Mr. MERRILL. The maximum beyond which he could not go during the life of the lease? I would fix the maximum at one-half the net surplus over and above a definite fixed return upon the actual investment, the fixed return to be twice the bond interest rate.

The CHAIRMAN. That is all right; that in effect is fixing it, of course.

Mr. MERRILL. It might not come within the 25 cents or 50 cents that some have proposed.

The CHAIRMAN. I do not care what it is, I am assuming in California at least 10 cents a horsepower and in Wyoming it would be $20 a horsepower, it is the principle that I am trying to get at. The reason that I am opposed to putting in a specific rate in this bill is because I do not think it would be justice. For that reason I want to give some latitude to the Secretary in fixing the rates.

Mr. MERRILL. Most certainly.

The CHAIRMAN. I do not think that it could be fixed in cents or dollars, but by a rule that shall be inflexible in operation.

Mr. MERRILL. Precisely. I call your attention to the fact that in States where there are public utilities commissions their rates are subject to revision at any time by that commission, on what the

commission considers a fair rate of return, and the fact that a corporation in California may be earning 10 per cent now does not indicate that it will not be earning 20 per cent 20 years from now.

The CHAIRMAN. I know, but the Federal Government is much farther from home, and the Federal Government could not put them on the carpet every week.

Mr. MERRILL. I would not do it oftener than once in 10 years in any event, and I would put this rule in, not so much to be exercised by the Federal Government in fixing the rate as for the grantee when he comes back and claims that the rental as fixed is more than it ought to be.

The CHAIRMAN. That, of course, would not scare anybody away. It is the idea of leaving the power with the department just to go on and on, when public clamor and the populistic excitement forces him to go too far.

Mr. MERRILL. I would put an absolute limit on it to this effect, that the Federal Government should not exact any rental over and above a normal administrative charge that should prevent the company from earning on its investment in the property twice the rate that it pays on its bonded indebtedness.

The CHAIRMAN. That might or might not be advisable; it is at least definite.

Mr. MERRILL. I would make it a definite limitation, because we do not want to split hairs on things of that kind. And I have recommended this, not so much, Mr. Chairman, as a reason for securing these rentals, as to provide a fixed rule, so that whoever invested would know that if, during the pendency of the lease, the rentals should be adjusted that they could not be fixed at a point that would prevent the project from earning the return I have named, as far at least as the Federal Government has anything to do with it.

The CHAIRMAN. Of course we are passing over now what the rules and regulations would be rather than what goes into the bill.

Mr. TAYLOR. I think we are discounting the future or splitting hairs.

The CHAIRMAN. Have you any written report, which I can study over an hour or two when I sit down, and see if I can find out what you are talking about and your method of arriving at a basis of value?

Mr. MERRILL. I will prepare one.

The CHAIRMAN. I wish you would; I would like to have one.

Mr. MERRILL. I wish to call the attention of the committee to one matter that has been presented by certain witnesses before the committee, to the effect that you can not charge rentals of any consequence, for the reason that the companies now are not earning a reasonable return, that most companies in fact are not paying dividends on their common stock.

Mr. TAYLOR. Some of them are in the hands of receivers, indeed most of them.

Mr. MERRILL. "Some of them" is right, Mr. Taylor. I just want to quote you an example of another sort from a prospectus by N. W. Halsey & Co., bankers, in 1911, with respect to some bonds of the Pacific Gas & Electric Co. I read this:

The property of the company is in excellent physical condition, over $19,000,000 having been expended in the last six years for improvements, betterments, extensions, etc. Of this amount over $10,000,000 was obtained from surplus earnings, etc., against which there has been no increase in the bonded debt.

The company at that time had preferred stock of $10,000,000 outstanding on which it paid each year a 6 per cent dividend. It had outstanding at the same time $20,000,000 of common stock. This $10,000,000 of surplus which might have been applied to earnings on the common stock was diverted into capital account, and the reason that the company was unable to pay returns or dividends on this common stock was because the $10,000,000, which would have paid 8⅓ per cent interest on this stock for every one of these years, was diverted to capital.

I will also quote you from the prospectus from which I read yesterday:

The company (Pacific Gas & Electric Co.), for a number of years, has followed the policy of strengthening its position by devoting its surplus earnings——

Earnings which properly should have gone to dividends on the common stock—

on the one hand, to the upbuilding of its properties, and, on the other hand, to the reduction of its debt. This has resulted in the creation of a large equity in excess of the company's funded debt. While it is difficult to definitely fix the exact replacement value of these properties, estimates made by competent engineers place it somewhere between $90,000,000 and $100,000,000, exclusive of good will, franchises, and other intangible items.

The main point of the quotation follows:

This represents a minimum equity of more than $32,000,000 in excess of the total par value of all of the company's bonds issued and outstanding in the hands of the public at the close of 1910.

Those $32,000,000, largely surplus earnings of the company, which should properly have appeared as earnings and been paid as dividends on its stock, were turned back into the capital account. It is very evident in this instance why dividends could not be paid on the common stock. Of course this would be a proper proceeding if the common stock represented actual investment; if the amount turned back into the property was no more than a reasonable return upon the investment represented by the common stock; and if the books of the company showed that such additions to capital account were in effect advances made by stockholders of moneys that otherwise they would have been entitled to receive and use for such purposes as they pleased. As far as my observation goes this is a fairly general practice. The apprehensions which have been expressed concerning ability to pay dividends, much less rentals, might be largely allayed if inquiries were made concerning the real reason why dividends on the common stock of electric power companies have so often been passed.

I wish to speak about rentals, particularly nominal rentals for administrative purposes. In reply to an inquiry made yesterday: Norway receives 25 cents per horsepower; the charge in Italy is 55 cents per horsepower; and the charge in Oregon under the statute of 1909, is 25 cents to $2 per annum, on the theoretical development of the site. That is not the basis on which the Federal Government has as yet assessed any charge. Taking the fact that in Oregon the horsepower is computed on the theoretical power of the stream, and remembering that in a water-power development you can not get out more than about 70 per cent of the theoretical power, even if you are operating at full 24-hour load, and that in addition you may have a load factor, as I stated yesterday, of around 50 per cent, the Oregon charge may amount, on the basis of power actually generated, from

about 75 cents to about $6 per horsepower. The higher figure is far in excess of anything that the Federal Government has charged.

Mr. RAKER. Is there not quite a distinction there to differentiate, first, that it is owned by the State, and it is their duty to collect revenue for the maintenance of the State government, and then we are just simply figuring on control and proper management, so as to have proper regulation and therefore not enter into a money-making scheme?

Mr. MERRILL. I agree with you, Judge Raker. I use this for illustration of what is charged elsewhere. Under the regulations of the Department of Agriculture our charges are nominally a maximum of $1 per horsepower, but are figured on a basis that makes them much less than that per horsepower of development. The procedure or method has been this: We have first rated the site at so many horsepower of reasonable development during low water conditions. We have used this method in order that we might thereby classify sites according to their relative values for power purposes and then collect rentals on such classification rather than to make a charge on the basis of the actual output of electric power. We have estimated how much power can be developed at the given site in conditions of stream flow determined by taking the average low-water flow for the two lowest consecutive months in any period of five years, and with an allowance of 30 per cent for losses in water wheels, generators, etc. We then reduce the amount so computed to the basis of average 24-hour output by applying the probable load factor under which the system will operate. I will illustrate this by an example: Assume that a permit is to be issued for a certain power site on which it is proposed to build a plant that will utilize 100 second-feet of water, whenever such an amount is flowing in the stream. Assume the "effective head" to be 1,000 feet and that the average flow for the two lowest consecutive months is 20 second-feet; also assume a load factor of 50 per cent. The theoretical capacity of such a site, with 100 second-feet of water through a head of 1,000 feet would be 11,400 horsepower; with 20 second-feet it would be 2,280 horsepower; 30 per cent reduction from 2,280 horsepower for mechanical and electrical losses would leave 1,600 horsepower, and an allowance for 50 per cent load factor, 800 horsepower. This 800 horsepower is the rated capacity of the site, its classification rating, as a basis upon which to determine rental charges. Having fixed such base rating, the actual rental charged is proportioned on the ratio of public lands used to private lands used.

Mr. SINNOTT. You gave these Oregon figures at 25 cents to $2; why is there such a latitude there, and what do they do in actual practice?

Mr. MERRILL. I can not tell you about that, Mr. Sinnott; I presume they do it on the theory that some sites are worth more than others.

Before I proceed to name the rentals which have been charged by the Federal Government, I wish to read to you and to insert in the record, a statement of rentals charged for the use of private sites, mostly in the Eastern States.

Mr. THOMSON. Charged by private parties?

Mr. MERRILL. By private parties, private individuals renting water-power sites.

The CHAIRMAN. Do you have that per kilowatt or per horsepower?

Mr. MERRILL. I think it is both.

The CHAIRMAN. Horsepower is the simpler for us.

Mr. MERRILL. We prepared it originally on the basis of kilowatt hours. I will omit the figures now, until they can be translated into horsepower.

Rental for hydroelectric plants.

	Rated capacity.	Output capacity.	Rental per horsepower rated capacity.	Rental per horsepower output capacity.
	Horsepower.	*Horsepower.*		
A	339	.....	$7.37	[1] $14.74
B	1,120	932	12.31	14.66
C	1,565	920	7.85	13.10
D	3,175	656	6.23	30.20
E	267	.....	11.22	[1] 22.44
F	1,050	.....	2.13	[1] 4.26
G	333	.....	5.22	[1] 10.44
Average	1,121	.....	7.48	15.69

[1] Estimated with a load factor of 50 per cent.

The Southern California Edison Co. has six plants under permit, or rather paying rental charges in conformity with the terms of the present regulations, as are other permittees. These plants are in the Angeles and Kern National Forests in California. The total power capacity figures on the basis which I have just described is 13,705 horsepower. The rental capacity, which means the amount remaining after deductions have been made for the land not public is 11,441 horsepower, and the company pays $1 per horsepower per annum upon this amount, or a yearly rental of $11,441. The installed capacity of these plants is 37,200 horsepower, which means that the maximum rental charge under the terms of the agreement with the Southern California Edison Co. is 37 cents a horsepower a year, if measured on the actual horsepower developed. I will insert the detail figures here:

Operating plants of the Southern California Edison Co.

Name of plant.	Total power capacity.	Rental capacity.	Installed capacity of generators.		Relation total to installed capacity.
			Kilowatts.	Equivalent.	
	Horsepower.	*Horsepower.*		*Horsepower.*	
Mill Creek No. 2	148	54	250	335	0.44
Mill Creek No. 3	806	630	3,000	4,025	.20
Santa Ana No. 1	881	485	3,000	4,025	.22
Santa Ana No. 2	388	367	1,000	1,340	.29
Lytle Creek	282	175	500	670	.42
Kern River No. 1	11,200	9,730	20,000	26,820	.42
Total	13,705	11,441	27,750	37,215	.37

The figures which I mentioned a little while ago in respect to charges made for the rental of hydroelectric plants by either private individuals or corporations vary from a minimum of $4.26 a horsepower to a maximum of $30.20 per horsepower, or an average of $15.69 per horsepower.

Mr. TAYLOR. May I interrupt you? I do not know whether this is the right place or not. But in the mountain streams everywhere where these plants would be, we have high water beginning, say, in April, and in the larger streams it runs high water into the middle of June, and then runs down. In November and December and January, when there is hardly any water at all, they have to supplement their flow during that time by the construction of reservoirs where they can, and they also have to supplement it by the use of coal to produce steam. How do you get at the proportion, for instance, that they have to supplement the flow, as by storage reservoirs, which is just as expensive, you might say, or at least largely expensive, supplementing the water power by an artificial flow, or supplementing the water power by steam, and what proportion should the Government get as a royalty on the plant? We will say, to illustrate, that it produces 10,000 or 100,000, whatever you may say is produced by the natural flow, and the produces during a period of the time the artificial flow, and the rest of the time by coal. How are you going to differentiate and say where the Government comes in here on that kind of a proposition?

Mr. MERRILL. I will explain that, Mr. Taylor. I will assume a condition under which there is required for the full operation of the hydroelectric plant 30 second-feet of water, that when there is not 30 second-feet of water some auxiliary has to come in.

Mr. TAYLOR. Why not say more than that; say 1,000 second-feet?

Mr. MERRILL. It makes no difference, it is just relative.

Mr. TAYLOR. For instance, there on the Grand River it is estimated there are 1,500 second-feet.

Mr. MERRILL. I will start back again.

Mr. TAYLOR. Yes.

Mr. MERRILL. I will assume it 1,000 feet to run that plant to full capacity, that if at any time there is less than 1,000 second-feet flowing in the river the steam plant comes into operation to help out the load, that for a period of five years in duration the lowest flow that has been maintained for two consecutive months is 100 second-feet; and that it is entirely on Government land. Assuming that this is a 10,000-horsepower plant, with 1,000 second-feet, we would rate it for purposes of rental charge at one-tenth of its full capacity; that is, at 1,000 horsepower. This is done because they have to supplement with steam that space between the minimum of 100 and the maximum of 1,000, and for this difference no charge whatever is made.

Mr. TAYLOR. Excepting that they may supplement part of that by the construction of expensive reservoirs at a great expense.

Mr. MERRILL. We will assume then that they have reservoirs that bring it up to 200. If those reservoirs are on private land we do not treat them any differently than if a steam plant were used. If they are entirely on public land we base our charges on the amount of power developed by the 200 second-feet.

Mr. TAYLOR. Notwithstanding, these reservoirs would be very expensive to maintain.

Mr. MERRILL. Yes, but they are no more expensive than the steam plant; they are less so. The fact that the reservoirs which are used are on the Government land makes the power site more valuable.

Mr. TAYLOR. The question is whether or not we have reservoir sites; whether or not it would pay them to locate reservoirs, whether there would be any inducement to construct reservoirs, if they are going to pay a charge when they supplement their power by steam.

Mr. MERRILL. Let me just add this, Mr. Taylor, that what I have been stating now is merely a method for classifying power sites, and has no relation to the amount that we shall charge for them. That is a different question.

Mr. TAYLOR. I understand.

Mr. MERRILL. This is a method for determining the relative value of one site as against another site.

Mr. TAYLOR. There is nothing in this bill though that we could go out and figure or estimate anything as to the basis, is there?

Mr. MERRILL. No, because as I understand it the bill provides for a charge on the power actually generated.

Mr. TAYLOR. This bill figures on high water does it not?

The CHAIRMAN. No; it gives the Secretary authority to fix the charge.

Mr. RAKER. Let me ask you one question. Would you fix a definite maximum rental charge in the law for the entire term of the lease?

Mr. MERRILL. I do not believe that is necessary, for the main thing is that there shall be a definite basis in the lease.

Mr. RAKER. From your viewpoint and your experience you would not fix it in the law?

Mr. MERRILL. Probably not, and for this reason, Judge Raker, that if it were to be fixed on the basis on which I have been arguing here, it might be so difficult to express in definite terms that it had better not go in.

Mr. RAKER. You would fix a definite maximum rental charge during the entire term?

Mr. MERRILL. In cents per horsepower?

Mr. RAKER. Anything definite, per horsepower, yes.

Mr. MERRILL. I do not think so.

Mr. RAKER. Would you fix a definite maximum rental charge in the lease during the entire term?

Mr. MERRILL. I would do either one of two things. I would either fix it definitely in cents per horsepower and say we can not go beyond that, or I would fix it by a definite rule so determined that there could be no misunderstanding. I would either have one thing or the other, because I would have it absolutely definite from start to finish.

Mr. RAKER. During the entire term of the lease?

Mr. MERRILL. During the entire term of the lease.

Mr. KENT. It might be on a sliding scale?

Mr. MERRILL. It might be, but there should be somewhere in the lease a definite limitation that it shall not go beyond a certain amount, whether it is in terms of cents per horsepower or a return on the investment, or whatever it may be.

Mr. KENT. You do not believe it is necessary to have a uniform charge during the entire period?

Mr. MERRILL. No.

Mr. KENT. You would charge less at the start than later?

Mr. MERRILL. Yes.

The CHAIRMAN. You would not put that into the law, because conditions vary at different places.

Mr. MERRILL. If I were going to put it into the law I would put it in at not more than a certain amount, and I would provide that there shall never be a charge made that will prevent a permittee from receiving a reasonable return upon his actual investment. If I put anything in the law I would put in something of that nature and stop right there.

Thereupon the committee took a recess until 2.30 o'clock p. m., Friday, May 8, 1914.

AFTER RECESS.

The committee reconvened pursuant to the taking of recess.

STATEMENT OF MR. O. C. MERRILL—Continued.

The CHAIRMAN. Before you proceed, I want to insert a reference to page 702, of the Daily Consular and Trade Reports, under the head of "Costs of Norwegian hydroelectric plants," to a short paragraph which will be found there having to do with the price they pay per horsepower, etc.

Mr. MERRILL. Mr. Chairman, in order to clear up, if I can, some of the misunderstandings that appear to exist concerning what I have been attempting to discuss before you this morning with respect to the limitation upon the rate of return to the Government, I wish to make at this time a brief statement upon the principles which I would establish with respect to a limitation to be placed upon the rates in the leases.

The CHAIRMAN. Not in the law, now; but in the leases?

Mr. MERRILL. In the leases.

As the value of any commodity is its "value in exchange," so the value of any part of an operating property, like a water-power plant, is its "value in use," and its value in use is measured solely by its capacity to earn profits. If a water-power property with its machinery, its canals, reservoirs and power house and its real estate is unable to earn the ordinary rate of interest on the investment, it possesses no value as an operating property. Under such circumstances, the machinery, unless it can be removed to some other plant, has only junk value; the dam, conduits, and power house, unless they are adapted to some other use, are valueless; and the land occupied has its value determined by the next available use to which it may be devoted. If, on the other hand, the property is earning interest and dividends it has a value which is measured by the capitalization of its earning capacity. The value so determined is well-nigh universally used as a basis for private sales. In the absence of unreasonable rates, such a basis has been taken time after time in condemnation proceedings for the purpose of determining the value of an operating public utility property.

I propose to apply to the public lands this same principle of valuation, basing the value of such lands upon the power conferred upon the grantee to earn profits upon his investments therein. With the value so determined, I propose to have the Federal Government, as agent of the public, loan to the grantee the use of the public land upon the same terms that other creditors loan capital, but with this distinction—that while other creditors receive a fixed return, the

public shall receive a contingent return, contingent because it will depend upon the rate they pay for the service.

The method of determining power-site value can best be shown by an example such as was used this morning. Assume a property upon which the actual total investment for all items, except the power site itself, has been $250 per horsepower. Assume the gross annual receipts, $100; maintenance, $10; operation, $50; and depreciation reserves, $4, per horsepower. Assume the average interest upon the par value of bonds at 6 per cent, and that a "fair return" may be considered as twice the bond interest, or 12 per cent. The conditions would then be as follows:

Gross receipts		$100.00
Annual expenses (except interest):		
Maintenance	$10.00	
Operation	50.00	
Depreciation reserves	4.00	
		64.00
Net revenue		36.00
Total permissible investment on project is net revenue capitalized at 12 per cent		300.00
Total actual investment in plant		250.00
Permissible investment in power sites		50.00

Under the conditions above outlined, an investor could afford to borrow the money and pay $50 a horsepower for the power site, since he would be able, after so doing, to pay 6 per cent interest on the borrowed money and retain 6 per cent profits for himself, just as has been assumed for the remainder of the property valued at $250 per horsepower. It is my proposition that in a case like the above the Federal Government, as agent of the public, shall loan the public credit in the form of public lands at the same rate of interest that is paid to other creditors whose loans are secured by bonds, in the example cited 6 per cent, allowing the grantee to retain the other 6 per cent as profits for conducting the business.

The interest at 12 per cent on the site value of $50, or $6, is what I have designated as the "economic rent" of the site. It might also be called the "net surplus" over and above a fixed return on the actual investment. This will appear if the above tabulation is repeated in the following form:

Gross receipts		$100.00
Annual expenses (except interest):		
Maintenance	$10.00	
Operation	50.00	
Depreciation reserves	4.00	
		64.00
Net revenue		36.00
Interest at 6 per cent on investment of $250	15.00	
Profits at 6 per cent on investment of $250	15.00	
		30.00
Net surplus		6.00

The only difference between the net surplus as above computed and as ordinarily computed is that in the above example it is taken upon the actual investment instead of upon a fictitious investment set up to cover speculative increases in land values and hopes of immoderate returns.

It is my proposition that a rental collected through the agency of the Federal Government should ordinarily be a small fixed sum for administrative purposes, but that the authority should be granted under the law to absorb some part at least of this "net surplus," whenever it is not taken up by local agencies in reduction of rates. I call your attention to the fact that a reduction of 6 per cent in charges to consumers (gross receipts) would entirely wipe out the net surplus in the example above given. If a fixed rate is named in the bill, such as 25 cents per horsepower as has been suggested, it will be impossible to prevent during the life of the lease the earning of interest and profits upon values far in excess of the actual investment.

It is very important that the rental features, either of the law or of the lease, be fixed either in absolute amount or in method of computation. Any uncertainty in this or any other respect will be capitalized and paid for by the public many times over. It would be my suggestion that either the law or the lease, or perhaps both, fix a minimum in absolute amount and a maximum by definite rule. I would suggest that the minimum to be paid by all grantees be fixed at 10 cents per horsepower and the maximum at—

50 per cent of the net surplus over and above a fixed return on the actual investment, said fixed return to be taken at twice the average rate of interest paid by the grantee upon the par value of its bonded indebtedness.

I believe these limits could readily be stated in the bill. If this is not thought desirable, I would, at the least, recommend a proviso as follows:

Provided, however, That no rental charged hereunder shall be so great as to prevent the earning of a reasonable return upon the actual investment of the lessee in the business conducted in whole or in part under the lease, but the burden of proving that any rental so charged prevents such reasonable return shall rest upon the lessee.

If maximum rentals are to be determined by a fixed rule, I would nevertheless make the rental a fixed amount for 10-year periods; that is, I would fix a definite amount in the lease when it is issued—say, 25 or 50 cents per horsepower—to run for 10 years without change, but provide that this amount might be changed each 10 years thereafter upon the condition that such change should not reduce the rates below the fixed minimum or raise it above the amount determined by the fixed rule.

I do not care to discuss this matter further, because I think you have taken all the time you desire on it.

There has been more or less discussion, Mr. Chairman, upon the question of whether or not rentals charged by the Government will be paid by the consumer. I do not wish to take up the time of the committee, if I can help it, in any long continuance of that discussion. I do wish, however, to make a statement concerning it, and to illustrate the situation by two examples which I would like to insert in the record.

There are two questions involved in whether a Government rental will be paid by the consumer. The first question is in relation to the actual fact of payment. It makes no difference from what source a charge comes, whether it is Government rental, tax, cost of operation, or any other charge whatever laid upon a public utility corporation, it is actually paid by the consumer, because there is no other source of revenue. That is one question.

The other question is whether, in case a Government rental is charged, the consumer pays higher rates than he would pay if the rental were not charged.

The two are totally different questions.

Mr. RAKER. The first one you have not any doubt about?

Mr. MERRILL. There is absolutely no question about it, Judge. There is no other source of revenue; it must come from there.

Mr. RAKER. You have heard the statements before the committee upon that subject?

Mr. MERRILL. I am inclined to think it was rather in imperfection of statement than any intent behind it.

There are four conditions under which rates may be fixed by or for a public utility, namely: (1) Unregulated competition, (2) unregulated monopoly, (3) regulated competition, (4) regulated monopoly

In the first case, that of unregulated competition, it is assumed that competition is "free;" that is, that there are no agreements, actual or implied, between the competitors, and that each could and would, if left alone, supply the full demand. If these assumed conditions do not exist, the case of course falls into one of the other classes. This condition and the effect of rentals can best be illustrated by an example in which variations are exaggerated in order to better illustrate the situation. The example assumes three companies competing in the same market, the only difference between them consisting in varying cost of plant as follows:

	A.	B.	C.
Plant cost per horsepower	$100	$200	$300
Gross receipts	60	60	60
Operation, maintenance, etc	30	30	30
Interest at 6 per cent	6	12	18
Total expenses	36	42	48
Net receipts	24	18	12
Interest on investment ... per cent	24	9	4

So long as C stays in the market and continues to deliver power, any rentals assessed upon A and B which will not reduce the rate of profit below that received by C will not cause an increase of rates ($60 gross receipts) to consumers, for if either A or B raises the price C will get the business. Hence, a rental up to $20 might be charged against A and one of $10 against B without affecting rates to consumers. Under such circumstances the three competitors would be operating under equal terms in the same market and each earn 4 per cent as follows:

	A.	B.	C.
Plant cost per horsepower	$100	$200	$300
Gross receipts	60	60	60
Operation, etc	30	30	30
Interest at 6 per cent	6	12	18
Rental	20	10	.....
Total expense	56	52	12
Net receipts	4	8	12
Interest on investment ... per cent	4	4	4

Of course, in actual business, adjustment of earnings by such means would not be exact; neither would an increase of rates by A and B be followed by immediate loss of business to C. Adjustments of every sort would be gradual. This observation applies equally well to the succeeding examples. The condition of free competition long maintained is extremely rare in the public utility business. The almost inevitable result is consolidation or nominal competition concealing formal or informal agreements.

The second condition that may exist is that of unregulated monopoly. Under such conditions rates will be fixed either at a point determined by the potential competition of other sources of power, such as steam or gas, in which event rates will be placed just low enough to prevent potential competition from becoming actual; or rates will be fixed with a view of securing the greatest net return upon the investment. In general, rates fixed upon the latter basis will be somewhat less than if fixed for the purpose of just avoiding competition from more costly sources of power. If the basis is potential competition, a rental charge which will not reduce the rate of return upon the investment below that ordinarily received in other enterprises of equivalent risk in the same locality will not increase rates to consumers, for if rates are increased the potential competition will become actual, investments in the higher-cost power will become profitable, and the monopoly will cease to exist. Whether a rental charge will increase rates to consumers when such rates are fixed to secure the greatest net return will depend upon how closely rates have been adjusted to this end. If the adjustment has been close, or if there is a considerable difference between such rate and one fixed just low enough to avoid competition in more costly sources of power, it is probable that any considerable rental would result in increasing rates to consumers. It will be found that even under unregulated monopoly it is the more common practice to fix rates on a basis of maximum net return than upon a basis of potential steam or gas-power competition, and that the rates actually charged under many hydroelectric monopolies in the West are considerably less than steam power costs.

The third condition under which rates may be fixed is that of regulated competition, a condition under which two or more competing companies are allowed to furnish service side by side without actually taking over each other's customers. Necessarily, under this theory of regulation the rates charged must be actually or approximately the same, because different rates for the same service can not be imposed upon neighboring users. Assume, for example, the two companies A and B, as just given, operating side by side in the same city or district in which the fair rate of return has been fixed by a public-utility commission at 9 per cent. So long as B is allowed to continue in business the charge to consumers by both B and C will be $60 (assumed gross receipts), for the commission could not discriminate between neighboring users and require one to pay $60 and another something else. In the example given a rental assessed upon A up to $15 per horsepower would not enable him to raise his rates to his consumers, because he would still be receiving the same rate of return—9 per cent—as B, who pays no rental.

The fourth condition under which rates may be fixed is that of regulated monopoly, under which condition, if rates are fixed on the basis of cost of service, any rental charge which might be levied would

be necessarily and immediately passed on to the consumer in an increase of rates, unless rates should be fixed at intervals only and in the meantime improvement in the art or in the conduct of the business had reduced the cost below that upon which the rate was originally fixed. This method of control by regulated monopoly is best illustrated by the practice of the Public Utilities Commission of Wisconsin.

Now, I would prefer, Mr. Chairman, to let that go as a statement and to insert the examples as an explanation, because you have been wearied, I know, by the discussion pro and con.

The CHAIRMAN. Unless there is objection, it may go in at this place.

Mr. MERRILL. About the disposition of rentals——

Mr. RAKER. Before you go to that, I would just like to put this question which you have already answered, in substance, in different ways: Would you put a limit in cents or dollars per horsepower per annum, in the law, or in the contract?

Mr. MERRILL. Neither. I would prefer, myself, to see the limit placed at a fixed rule rather than a fixed rate; but the thing that must be done, in my opinion, if we are going to get development under the best conditions and not create a situation which is going to increase the cost of financing, is either one or the other—either provide a fixed rate which can be known, in actual dollars, throughout the term or name a fixed rule by which it can be known, at any time, what the limit is going to be. And if I were going to put anything in the law, and I think something ought to go in the law, it would simply be what I have stated before: That no rental charged under this bill shall be so high as to prevent a reasonable return upon the actual investment made by the company.

Mr. SINNOTT. So low?

Mr. MERRILL. Should not be so high as to prevent a reasonable return on all of the property, or all of the money invested in the enterprise.

Mr. KENT. Or as to compel an unreasonable rate?

Mr. MERRILL. Yes, or that either. That is, you would not want to put a rental provision in here that would force up the rate to consumers in order for the lessee to get a return that is perfectly reasonable.

Mr. RAKER. Whenever you put the rate up, why the public, of course, would have to pay all the charges you placed upon them?

Mr. MERRILL. They certainly would, Judge; all the surplus.

As to the disposition of the rentals received; I believe that out of the rentals the Government may receive should be paid the cost of administration of the act, in any event. I believe it would be advisable if out of these receipts should be returned a fair part of the cost of protection of the national forests or other reservations in which the developments are made. For such a purpose it is a question of course, of whether you wish to do it in that manner or to do it out of annual appropriations.

Mr. SINNOTT. How extensive is that term "cost of administration"? What do you mean by that term "cost of administration"?

Mr. MERRILL. Of the bill?

Mr. SINNOTT. Of that particular plant?

Mr. MERRILL. The cost of administration of the water-power act. I may say, right here, that the cost of administration of the water-

power leases in the national forests at the present time, is approximately $50,000 a year.

Mr. KENT. How many horsepower?

Mr. MERRILL. Why, the amount is approximately 1,000,000 horsepower under permit. I may also add, here——

Mr. KENT. Five cents on the horsepower?

Mr. MERRILL. Yes. I had intended to mention earlier, but I passed it by, the fact that in the time we have been administering water powers in the national forests, from July 1, 1906, until July 1, 1913, the total revenues collected on all plants of all characters, including transmission lines, has been approximately $185,000. It is my recollection that the amount collected during the last fiscal year was approximately $60,000 from all permits of all kinds in relation to water power.

Mr. SINNOTT. What did that make the charge per horsepower?

Mr. MERRILL. $60,000 on 1,000,000 horsepower?

Mr. SINNOTT. Yes.

Mr. MERRILL. 6 cents per horsepower.

Mr. SINNOTT. Was there a million developed?

Mr. MERRILL. No, there is not that amount developed; but that includes payments which are in the nature of deposits, because all payments made under our regulations on preliminary permits, or on the final permits before the plant goes into operation, are credited to the permittee when the plant begins to operate and are allowed to liquidate the charges that accrue thereafter.

Mr. SINNOTT. And that 6 cents paid the administration charge?

Mr. MERRILL. That paid the administration charge for handling this work in the national forests.

The CHAIRMAN. Do you have a sheet there that shows the exact plants that are in operation and exactly what each one of them paid?

Mr. MERRILL. We have that.

The CHAIRMAN. I wish you would insert that in the record. I would like to know who paid this $60,000, where it came from, and all about it.

Mr. MERRILL. That information will be found in the tables introduced yesterday.

Mr. CHURCH. What system do you have upon which to base your calculation of the charge per horsepower?

Mr. MERRILL. The system I explained this morning.

Mr. CHURCH. I was not here, and therefore I did not hear it.

Mr. MERRILL. The first thing we do is to attempt to classify the various sites on the basis of the amount of horsepower that could be developed continuously under minimum water conditions.

For example, we have a plant that is developed to take 1,000 second-feet when there is that much water in the stream, and that particular stream may have a low flow of 100 second-feet. We compute the power capacity of that site on the basis of the 100 second-feet and not the 1,000. Having done that, we reduce it to a basis of a continuous 24-hour output, usually by a load factor of approximately 50 per cent. That is, we cut the hundred in half and charge rentals on the basis of the 50 second-feet in use all the time for 365 days of the year; and, having done that, we divide it again into the proportion that the public land bears to the private land. If the proportion is half and half, we cut the capacity in half, and having

done that, having reduced it to that figure, we apply the unit rental charge against it in horsepower.

Mr. CHURCH. What is that rate?

Mr. MERRILL. The rate varies from 10 cents the first year up to $1 at the tenth year and is $1 thereafter. This means that the annual rental is approximately equivalent, even when all the land occupied is public land, to 25 to 30 cents a horsepower of the machinery actually installed. It is practically the figure that Mr. Pierce has been suggesting here before the committee.

The reason we compute the rental in this way, instead of basing it on the actual kilowatt hours turned out, is because we believe that the method affords a fairer comparative basis on which to treat two plants located side by side. We take the low-water flow as a basis of computation because that is the point at which a development must stop, unless it adds either reservoir capacity or steam capacity. If the development goes beyond that low point, we make no charge whatever for such surplus development.

Does that explain your question, Mr. Church?

Mr. CHURCH. Yes. Thank you.

Mr. MERRILL. I believe the committee could well take into consideration, in respect to the disposition of rentals which, as the bill is drafted, will all go into the reclamation fund, that under existing law 25 per cent of the receipts of the national forests from all sources whatsoever go back to the States to be distributed to the counties in proportion to the area of the national forests within the counties. In addition to that, under the provisions of the last two agricultural appropriation bills, an additional 10 per cent of all receipts is handled by the Department of Agriculture and is used in the construction of roads and trails within the national forests. I believe that that is an excellent way to dispose of the funds. We have built a great many roads, even in the two years that the funds have been available. We have put those roads into places where roads would not have been built had these funds not been available. We have cooperated wherever possible with the local communities, both in the construction of roads and in the furnishing of funds for their construction.

The attempt has been made in handling these funds to provide means of communication to those distant communities which but for that fund would have no roads at all—for those areas that are out of reach of the State highway systems and, in many instances, beyond the reach of county highway systems.

The method of disposition of receipts as proposed in this bill would reduce the amount that is now available for the purpose named. In my opinion, there should be no reduction; rather there should be an increase. I do not believe there is a more worthy object for the disposition of receipts from any sources within the national forests than the construction of means of communication in the form of roads within those areas that are so illy provided. These areas are withdrawn from taxation under the provisions of the national forest reserve acts. I think, in common justice, the funds that are received from those lands should go back to the lands from which they are received.

Mr. TAYLOR. Would the Chairman let us put in an amen?

Mr. KENT. Mr. Taylor, you are just a little bit too late; I wish the gentleman would go back and start over, for your benefit.

Mr. RAKER. In other words, Mr. Merrill, this is one of the things you and I agree upon, and we are practically the only ones on the committee, as to the disposition of our funds. And I want to compliment you on your fairness and thorough investigation and the effect it has on the development of the community from which these funds come. [Laughter.]

Mr. MERRILL. I hope, Judge, that has no string attached to it.

Mr. RAKER. Oh, no.

Mr. GRAHAM. Are you sure you gentlemen understand one another? [Laughter.]

Mr. MERRILL. I wish to present in the record at this point, Mr. Chairman, if I may, a tabulation of the mileage of public roads that have been built in the national forests in the last two years under what is called the 10 per cent appropriation for the public roads.

The CHAIRMAN. Do you think that is important in this connection?

Mr. MERRILL. I think it is important to show where the money has been expended, and where it ought to continue to be expended.

The CHAIRMAN. Unless there is objection, it will go in.

(The paper referred to will be found as Exhibit V in the appendix.)

Mr. MERRILL. I wish to speak as briefly as I reasonably can on this question of purchase by the Government, or recapture.

There seem to be two real reasons only why this should be done: First, in order that the Government itself may own and operate these plants; second, in order that it may get them and then transfer to some State or municipality.

With the proposition of Government ownership and operation of power plants, I am not in sympathy. I do not believe in its advisability either as a political proposition or as an economic proposition.

Mr. KENT. Is not that the only means of control that it has now—the power to take over?

Mr. MERRILL. You misunderstood me. Operation is not necessary for the purpose of maintaining control, but the power of taking them over is. I am speaking, now, of both ownership and operation by the Federal Government. As for ownership or operation by a State or by a municipality, I believe every opportunity should be left open for that to be done, whenever a municipality or a State desired to do it.

The bill provides, in the terms of the purchase, for a segregation of the property owned by the lessee into three classes, and these are the three classes: The first class covers appreciable property, property that is subject to the unearned increment, as it is called. The second class covers property which is not subject to the unearned increment. It is nonappreciable property, or, to turn the term around, it is depreciable property. And the third class is intangible property.

The bill provides that for the appreciable property that exists at the time of purchase, the purchase price shall be the actual original cost; and that for the nonappreciable property, it shall be the reasonable value of such property. It might just as well have been the actual cost, because the two would not be far different.

Mr. KENT. Under actual cost, you have to have the appreciable element in there, that is supposed to be provided for out of——

Mr. MERRILL. I would correct it, of course, under proper accounting methods. And let me add right here, that the proposition of recapture at actual cost is a dangerous one, unless you provide a

method for determining costs at the time they are incurred and of keeping record of them thereafter. Too many memories fail and too many accidents may happen to a set of books in the course of 50 years to make it safe to trust such matters entirely to the lessee. A system of accounting should be required under which only such items may be charged to capital account as properly belong under capital; and annual reports of additions and the classification thereof should be required, in order that there may be no dispute at the termination of the lease over what the actual costs of certain items really have been. Another matter in which there may be still greater danger is the determination of costs of the water rights, lands, and easements, which must be secured before operation commences. These are the items, and here is the time of greatest danger of inflated costs. What costs are you going to consider? Costs to whom? To the lessee? Then the unearned increment of the full 50 years can be drawn down in a single transaction, and it can be called actual cost to the lessee. The Great Western Power Co. paid to its predecessors over $26,000,000 for some 26,000 acres of lands and for certain water rights along the Feather River in California. The water rights, of course, cost the locators nothing. The price paid is equivalent to $1,000 per acre for the lands bought. No one would contend for a moment that the lands when first bought for power purposes cost any such figure, and yet if the Great Western Power Co. should appear as a prospective lessee and should set forth that it has actually paid $26,000,000 for these lands and these rights—what could be done? I know of but one answer, and that is to allow the officer passing upon an application for a lease to pass also upon the price paid for this class of property. If the Secretary and the applicant can not agree, then the Secretary should have the right to require that the values be determined by condemnation proceedings. No lease should be issued until all such values have either been determined and agreed upon, or else until condemnation proceedings have been actually instituted for such determination. If this or something similar is not done, the words "actual cost," at least with reference to any properties purchased prior to the issuance of the lease, will be meaningless. The cost of properties of this class purchased subsequently to the issuance of the lease should also be determined in some such manner.

There are three elements of intangible values, which, it seems to me, are covered by the term "intangible element." Two of these, franchise value and good will, are named specifically in the bill. The third is what is known as going value.

It is my understanding, obtained from reading quite a number of both court decisions and commission decisions on the valuations of property, that good will is seldom, if ever, considered an element of valuation in a public utility business.

Mr. KENT. Except for the purpose of capitalization?

Mr. MERRILL. Yes; but I mean for purchase. At the time of purchase franchise value should be nil; for when the franchise terminates its value becomes nil unless you insert provisions in the bill by which at the termination of the lease there shall be left some right in the lessee in the nature of property by means of which he can either hang on or secure a price for relinquishment. Of course, this should not be done.

The third element, going value, is the one for which you will find the people who come before you most concerned about receiving payment. Under most of the recent decisions of public commissions, as I have read them, going value has been determined as the capitalized costs of building up the business. That is my understanding of the Wisconsin rule; and the Wisconsin Public Utilities Commission has taken the lead in determining the method by which going value should be computed. In fact, going value is merely the capitalized value of deferred earnings.

Mr. SINNOTT. I wish you would explain that term of "capitalized costs."

Mr. MERRILL. This is what it means, Mr. Sinnott. A company starts into business now, we will say. For the first few years, as it is building up its business, it does not get enough in total gross receipts to cover its gross outlays. It falls behind. In succeeding years it falls a little less behind and a little less, and by and by it gets to a point where its return and outgo equal each other. From then on, if it is a properly conducted concern, receipts are going up until they exceed outgo by enough to pay reasonable dividends on the property.

As I understand it, the general practice in fixing going value has been this: There has first been determined the amount by which the business has failed to receive a fair return on the investment during each year that there has been a deficiency. The next step is to determine whether the business between the years of deficiency and the time of valuation has or has not received sufficient amounts in excess of a fair return to wipe out the deficiencies of the past. If it has not, these deficiencies in earnings may be capitalized and such capital value added to the value of the physical property. Of course, there are other methods for determining going value, such as the estimated cost of developing the business of a hypothetical plant, up to the point reached by the plant being valued at the time when it is valued, but it is my understanding that the first method named is the one most often followed.

Mr. KENT. Supposing a company was badly managed and continually lost up to the end of the term: Then what?

Mr. MERRILL. Such a thing is possible. I am only explaining my understanding of the interpretation placed upon going value by public-service commissions and was going to suggest that this intangible element also be specifically named in the bill as an item which should not be paid for when the lease expires. There is this consideration, however, that when you go too far into the ancient history of public utilities you are likely to find some things that should be overlooked. It is often better to overlook past delinquencies while insisting that they shall cease for the future.

Mr. KENT. Well, suppose the corporation said:

We are going to build this plant on a bond issue, and we can not get over 70 cents on the dollar on our bonds.

Are you going to take their word for it and say to them:

You have lost 30 per cent there on your original investment.

Mr. MERRILL. Why, I think that unless you can show good reason to the contrary, you should do that.

Mr. KENT. Well, it is the easiest thing in the world to issue securities and have this banking concern make a big rake-off, to start with; that is the easiest way.

Mr. MERRILL. Yes, sir.

Mr. KENT. Now, if the Government is going to recognize that, what do you say to that?

Mr. MERRILL. Recognize it only when such discount is reasonably necessary in some such manner as I have proposed for determining original costs.

I was only discussing the going value on the proposition that it might be advisable to name specifically all of these intangible elements for which no payment would be made. If a property has been going for 50 years, and has not wiped out at that time its deferred earnings, then it should be regarded as the owner's fault, and nobody else's, and it most certainly should not be allowed any item for going value at such time, however determined.

Mr. KENT. I understand. But I am trying to get at the question as to whether this 30 per cent discount on the bonds, and the water in the stock, should be something to be taken up by the deferred earnings—to be taken up at this time.

Mr. MERRILL. No; it might cover the bonds under certain circumstances, but would not cover the stock, because I would confine earnings to capital actually invested. I think you will find many instances throughout the West in which practically this situation in respect to bond discounts has occurred, and in many cases it has been necessary.

Mr. KENT. And in your opinion it should be recognized at the time of recapture?

Mr. MERRILL. My opinion is that at the time of recapture even this should, as a general rule, be eliminated from consideration, because the corporation has had 50 years under its lease to get back the deficiencies in earnings of the earlier years and to amortize its bond discounts, and unless it has been unable to take such a course this additional 30 per cent should not be paid.

Mr. KENT. That is what I am trying to get at. Would you consider that 30 per cent discount on the bonds something that the company should take care of, or something that should be recognized by the Government at the time of recapture?

Mr. MERRILL. I should say that the Government should not recognize it under ordinary circumstances.

Mr. KENT. Do you mean that the company should take care of that?

Mr. MERRILL. I think that the company should take care of that, out of its earnings.

We have heard a good deal here about the value of some of these lands, which under the bill are segregated into the first classification of nonappreciable property. Mention has also been made in several instances of some of this $1.25 an acre land for which the Government proposes to charge a rental.

The Great Western Power Co. about which I told you, Mr. Raker, yesterday, that I would give you some figures, is developing a power project on the Feather River in California. It is occupying as a part of its power site some 26,000 acres of land up here [indicating] on the North Fork of the Feather River, at the Great Meadows Reservoir

site. In addition it has some few hundred acres of land on the stream below, where its power plant and conduits will be located. It also has water rights. Its water rights cost it nothing more than the filing fee, unless they were purchased from somebody else who paid nothing more than the filing fee. I do not know how much was originally paid for the lands it has had to buy up there; most of them were probably bought at private sale; I think a few areas have been or are to be taken by condemnation. At any rate, for those 2,600 acres of land and the water rights attached thereto, the company, on appearing before the State Railroad Commission of California asking authority to issue bonds for some $4,400,000, claimed that it had paid for that property $1,333,000 in bonds and $25,000,000 in stocks; a total of $26,333,000, or $1,000 an acre for that $1.25 an acre land.

Mr. RAKER. Well, you have not told all there is about that land?

The CHAIRMAN. Do you still agree with Mr. Merrill, Judge Raker? [Laughter.]

Mr. RAKER. Is it not a fact that there was the Bundell Hotel, with all of its buildings, one of the best equipped summer hotels in the State, with fine mountain scenery, and so on?

Mr. MERRILL. I quite agree with you on that.

Mr. RAKER. And the Stover Hotel, with all of its various outbuildings, and the Pratville Hotel, and the store building across the street, and many residences—all of which the company was compelled to buy?

Mr. MERRILL. Yes, that is just the proposition; I have said right along that it was worth more than $1.25 an acre, and that they had to pay more for it.

Mr. RAKER. Well, at the outset, that land was the very best meadow land in the country, also, was it not?

Mr. MERRILL. Some of it was.

Mr. RAKER. And was it not further in this particular condition, that those people who came there for their summer vacation, had a stream flowing across their places, and that that made hundreds of people come there who would not otherwise have come, and all that made the property more valuable?

Mr. MERRILL. Very likely that is true. Take off $2,000,000 for that and that will leave $24,000,000 for the rest of it.

Another concern from the State of California, known as the Northern California Power Co. also——

Mr. SINNOTT (interposing). What inference do you wish to draw from those facts?

Mr. MERRILL. Simply that land which is worth $1.25, or even $10 an acre, when it belongs to the Government, is worth a great deal more when it gets into private ownership.

Mr. RAKER. But all this land in there is in private ownership?

Mr. MERRILL. Unquestionably; I do not see that that effects the fact. The simple fact is that the corporation did not pay anything like $1,000 an acre for that land. That is the point I was making.

Mr. RAKER. I see.

Mr. MERRILL. But they issue securities upon it to the extent of $1,000 an acre. And they are expecting the consumers of power furnished by that concern in the State of California to pay interest on the $26,333,000, and it is this speculative land value that they are

all so eager to get, the difference between the $1.25 or the $10 or the $50 per acre and the $1,000 per acre.

Mr. RAKER. I want to ask this question in connection with that: I was over there last fall, and I went over their headquarters, and I saw a crowd of 2,000 people that were building this dam, and I asked them how much this dam cost——

Mr. MERRILL (interposing). This amount does not include the dam; this includes only the land and water rights.

Mr. RAKER. It does not include the expenditures for the dam?

Mr. MERRILL. I so understand. The structures are not included; just the land and water rights.

Mr. RAKER. There is nothing included for this tunnel that they were to dig?

Mr. MERRILL. I so understand it.

Mr. GRAHAM. Did the public utilities commission authorize them to issue so many bonds and so much stock?

Mr. MERRILL. I can not answer that question offhand, Mr. Graham; I have taken only this extract from the decision of the commission, but it is my recollection that the commission authorized the issuance of the $4,400,000 of bonds applied for. Presumably the twenty-six millions in bonds and stocks were issued prior to the enactment of the public utilities law.

Mr. RAKER. Well, how much money, according to the record, did these people put into this project?

Mr. MERRILL. I do not know whether that appeared in the record or not.

Mr. RAKER. Well, it would have to appear in the record of the hearing, would it not?

Mr. MERRILL. It does not appear in what I have here [indicating].

Mr. RAKER. I know; but it would have to appear upon the hearings, so as to enable them to determine the question whether or not the $26,000,000 of bonds were based upon a reasonable value of the property. And I think this committee ought to have that information, in justice to the California Commission.

Mr. MERRILL. Just let me read it. The testimony was to the effect that the cost of the property and plant aggregated, on December 1, 1912, $47,375,594.65, which sum is made up as follows: $14,640,682.15 was paid for construction, $25,000,000 in stocks and $1,333,000 in bonds of applicant for the Big Meadows properties, $151,912.50 cash, $2,500,000 stocks and $3,750,000 bonds of applicant was paid for the capital stock of the City Electric Co. and the California Electric Generating Co.

Mr. RAKER. That covers it.

Mr. MERRILL. That covers it. $25,000,000 in stock and $1,333,000 in bonds of the applicant for the Big Meadows property.

Mr. KENT. What did they do, get up a subsidiary company, and then buy themselves out, with their stock and bonds.

Mr. MERRILL. I believe that the properties of the Great Northern Power Co. were originally acquired by the Golden State Power Co., the Feather River Power Co., and the Western Power Co. of California. The properties of the Feather River Power Co. and the Western Power Co. of California were turned over to the Great Western Power Co. upon its organization in 1906. The Great Western Power Co. later bought out the rights of the Golden State Co. The properties of

the Golden State Power Co., which appear to have been actually purchased by the Great Western Power Co., covered certain lands and water rights at and above Big Bend on the Feather River. The Big Meadows properties were originally owned by the Western Power Co. of California. Whether any money was actually paid over for these properties other than the $1,333,000 in bonds as previously given, or whether even this payment was anything else than a transfer of securities by a group of stockholders of the Great Western Power Co. to themselves as stockholders in the Western Power Co. of California, probably had nothing whatever to do with the amount of capitalization of these properties. The capitalization was doubtless fixed on the expection of future earnings, as is the customary practice.

Mr. KENT. The ordinary procedure under that sort of scheme is that the insiders, a certain group of people, buy a thing for what it is worth, and then sell it to themselves for its capitalized value, and then proceed thereafter to milk the public for the earnings on that?

Mr. SINNOTT. And that is all a fraud on the stockholders.

Mr. MERRILL. The proposition in connection with many promoting schemes is to get all the juice out of the orange at the time of promotion, and leave the pulp for the people who come in afterwards.

Mr. RAKER. Well, just before you proceed on that matter. Except the statement that you have there, there is not any statement that you have as to the actual cost that these people went to in making their investment?

Mr. MERRILL. It is stated here [indicating paper] as $14,000,000. That is not the purchase of the property. The $14,000,000 covers the construction. It does not cover the cost of those properties, the Big Meadow, or the land or water rights. That is covered by the $26,000,000.

Mr. KENT. All that you can set up by those figures is the absurdity of a cost of $26,000,000 for that land and those water rights, without knowing what the actual cost was?

Mr. MERRILL. That is the only thing I cared to say—that some of these $1.25 lands are pretty valuable when they get into private ownership.

Mr. KENT. Is there any way by which this committee can get at what the company paid, by communicating with the Califorina Commission?

Mr. MERRILL. I do not know.

The CHAIRMAN. Is the commission so mild mannered that they could not attack those figures as to the cost?

Mr. MERRILL. They have not that reputation.

Mr. SINNOTT. Any stockholder could attack such a proposition as that.

Mr. MERRILL. Mr. Sinnott, my proposition is that as a part of a going concern, under the expectation of future earnings, the properties are probably worth that much for the purpose; because it is one of the biggest developments on the Pacific coast. When it is completed and put into operation at the ordinary rate of return for power received all through the West, that company could earn returns on that capital, without any question.

My reason in presenting figures of this sort is not to show that necessarily there has been fraudulent action here; that is, not fraud as

ordinarily meant, but to show the great value of some of these water-power sites which we have been told were worth only $1.25 an acre.

Mr. CHURCH. Well, I understand that you do not claim that these figures were accepted as a basis for the rates to be charged, but only that they offered them?

Mr. MERRILL. I can not state that, Mr. Church, without reading the ——

Mr. CHURCH (interposing). Well, you have no evidence that the commission in California accepted that estimate of value, have you?

Mr. MERRILL. It is my understanding that these costs were presented in a hearing for the approval of an issue of bonds, and that was probably the only matter before the commission.

Mr. KENT. What was the amount of bonds that were issued on that property?

Mr. MERRILL. $1,333,000 of bonds actually issued.

Mr. KENT. And how much stock?

Mr. MERRILL. $25,000,000.

(Mr. Kent submitted the following telegrams for the record:)

[Telegram.]

MAY 8, 1914.

JOHN C. ESHELMAN,
Chairman, State Railway Commission,
San Francisco, Cal.

With aid of Secretary Lane we are making a fight for proper control of water power in the interests of the people. We are fighting to cut out the element of unearned increment at the time of expiration of the leases we may make. It has been alleged that the Great Western Power Co., of California, requested of your commission a recognition of cost of lands purchased at one and one-third million dollars of bonds, plus $25,000,000 of stock. Is this correct? Will your commission recognize this valuation as a basis of rate making? What information have you as to the actual cost of lands under this project, for which such stock and bond recognition is asked? Please rush answer Government rate collect.

WILLIAM KENT.

SAN FRANCISCO, CAL., *May 11, 1914.*

Hon. WM. KENT,
Member of Congress, Washington, D. C.

Out of town when your telegram arrived. Great Western Power Co. applying for bonds alleged as part of evidence of value that it had paid for Big Meadows lands and rights $1,333,000 in bonds and $25,000,000 in stock. This commission does not look to face value of such stock land bond issues in fixing value of properties, but looks to the properties themselves. The commission certainly will not recognize face value of stock so issued as basis of rate making. We have not at hand the data showing actual cost of these lands to the present time. The commission does not authorize the capitalization of water rights nor has it authorized the issues of stock or bonds on public utility properties over and above reasonable cost.

JOHN M. ESHELMAN.

Mr. SINNOTT. What would be your remedy for such a situation as you have described?

Mr. MERRILL. My remedy for that situation is exactly the remedy proposed here in the bill: That they should be forbidden, as far as any public land is concerned, to capitalize its value for rate-making, or for any other purposes, and that at the time of the recapture, whether it comes at the termination of the lease or under other conditions and earlier, that such property should go in at its actual cost and not at its inflated valuation.

Mr. KENT. What would you say in there—"Not more than actual cost?"

Mr. MERRILL. "Actual and reasonable cost;" and I mean by "reasonable" that the transaction should not be fraudulent, and that it should be a bona fide sale, not a reorganization sale.

Mr. KENT. I understand; not more than actual cost?

Mr. MERRILL. Yes; not more than actual cost, determined as I have previously suggested.

Mr. KENT. Because they might set up these figures as being actual cost, and therefore it would be safer to say "Not more than actual cost," so that we would have a chance to go back of the returns and find out whether there was fraud in ascertaining the actual cost?

Mr. RAKER. Let me ask this question for the record: Is it not the fact that that property was all reserved as a reservoir site, under the Reclamation Service, and that it was abandoned on the ground that it was not available to be properly handled by the Government, as an economical proposition?

Mr. MERRILL. I do not know. It would be quite a different proposition to develop the Great Meadows Reservoir Site as an irrigation proposition, from what it would be to develop it as a power proposition.

Mr. RAKER. Yes.

Mr. MERRILL. In that development out there the company is enabled to regulate the flow of Feather River to a uniform dicsharge of 2,500 second-feet, and to drop that amount of water through a height, as I recollect it, of about 3,500 feet.

Mr. RAKER. Yes.

Mr. MERRILL. And to develop between 300,000 and 500,000 horsepower; and it will be an extremely cheap development when it is completed—cheap per horsepower.

Mr. SINNOTT. Is there anything in the bill incorporating your idea as to regulation of this overcapitalization?

Mr. MERRILL. There is one thing that I wish to suggest, to be added to the bill later, to cover one feature, in addition to what is in the bill now.

I might add, as one other example, that in proceedings before the same railroad commission of California, the Northern California Power Co. presented a valuation of its property of $20,000,000, and I will quote from the decision in that case:

> Careful questioning elicited the fact that there had never gone into this property more than a little over $11,000,000. The money acquired from the sale of both stocks and bonds was definitely determined to be close to this figure. * * *
>
> In response to inquiries as to the source of the value of $10,000,000 or $11,000,000, which it was urged the present value of the property has in it over the original cost, it was urged that this difference was represented by the water rights of the company.

This meant, in that particular case, approximately $200 a horsepower for its water rights, which had cost it, if it was an original applicant to the State of California, a filing fee of anywhere from $1 to $10. Of course no one can say how many people got a rake off from the original appropriator up through to the corporation.

I cite those cases, Mr. Chairman, as examples of what is done with public property, whether it be the property of the Federal Government, or the property of the State, in relation to capitalization for rate-fixing purposes, and for purposes of sale.

I might cite one other example, the Big Creek project of the Pacific Light & Power Corporation. As far as its reservoir, conduits, and power houses are concerned, it is practically entirely on public land, in the Sierra National Forests. The water rights and the original permits from the Federal Government were taken out by an individual, and were later transferred to the Pacific Light & Power Corporation, in exchange for which the corporation issued to the individual $600,000 of its common stock.

I cited to you this morning the fact that the city of San Francisco was held up for approximately $600,000 for the water rights and Federal easements, held by others in the Stanislaus National Forest in California, on Cherry and Eleanor creeks.

I think these examples are sufficient to show that, whatever may be the value assigned to these properties, lands and water rights, while in the public hands, they become extremely valuable when a public utility corporation owns them.

Mr. Stillwell, in his testimony before the committee, stated, as I recollect, that if grantees of the Government were limited to the actual cost of this appreciable property at the time of recapture, it would be necessary for them—or in any event, they would probably exercise the right—to amortize out of earnings during the pendency of the lease what they believed to be the difference between the actual cost and the real value of those properties as part of a going business.

My answer to that is this: If there is no public utility regulation, they can do it; but if there is public utility regulation and this bill is properly drafted, they can not do it, because no public utility commission will allow a return on properties that do not exist.

I do not believe it is necessary to discuss that second division, of nonappreciable property, which covers structures built either on public or private land. Whether you take them over at "actual cost," in order to protect the permittee in his real investment, and then reduce the cost by the amount which the property has depreciated, or whether you pay the actual value at the time they are taken over, I think is immaterial.

Mr. THOMSON. The two methods would not be far apart, because this is property that is not subject to appreciation?

Mr. MERRILL. It is not subject to appreciation, and there is no unearned increment connected with it.

In relation to a question which Mr. Sinnott asked a short time ago, I will say that this bill does not prohibit, as I read it, the capitalization of these appreciable properties, lands and water rights, whether they be private lands, or lands of the public, for the purposes of securing revenue during the pendency of the lease.

Reverting to that valuation which was placed on the property of the Great Western Power Co. of $26,000,000, and assuming that under the provisions of your bill, at the time that that property is taken over, they shall turn it over to you at $1,000,000 or whatever may have been the real cost. Yet if during the 50 years that the lease is in effect you allow that company to earn interest and dividends on that capitalization, you will have permitted them in the period of 50 years to turn over, if interest and dividends aggregate 6 per cent, the original capitalization three times. That is, they will have taken out in earnings on that inflated capitalization $75,000,000. It does not make so much difference whether they

get the additional $25,000,000 in the end, as whether they are to get the $75,000,000 during the pendency of the lease by overcapitalization for rate-making purposes.

Therefore I think there should be a specific provision in the bill that, in consideration of the fact that these properties are to be taken over at cost at the termination of the lease, they should be considered at cost value for rate-making purposes during the pendency of the lease. There is no reason why you should do the one and not do the other.

The CHAIRMAN. Well, there again you would get into the proposition of having the Federal Government directing the State rate-fixing board as to what their basis of determination should be and you would get into trouble there, would you not?

Mr. MERRILL. Then I would limit it in any event to the extent that the Federal Government's authority goes; so that as far as the right that the Federal Government grants is concerned and on the basis of such grant they could not appear before a public utilities commission with this additional valuation.

I am not entirely clear as to just what the wording of such provision should be.

The CHAIRMAN. I understand; we can get Mr. Finney, of the Department of the Interior, to draft such a provision if we decide to incorporate it.

But I was trying to get at the question of the advisability of it. I can see where it would be advisable—or at least it would look so to me—for the purpose of keeping out watered stock and for the purpose of preventing them from defrauding the public with watered stock, with pure water—I can see why the Secretary might well take that into consideration in anything that he had to do with fixing of rates; but it seems to me as if you were getting on to rather close and doubtful ground in attempting to give a direction to the State board as to what their basis of calculation should be.

Mr. MERRILL. No, I would not do that, Mr. Chairman. If it were limited to that, I would make the grant in such a way that they could not set up under the authority of the grant a capitalization in excess of cost.

The CHAIRMAN. Well, we could put something in the lease to prevent that.

Mr. MERRILL. Yes; you could put something in the lease to prevent that.

Mr. RAKER. In other words, they would never get any benefit on the increase of the value of the land that they bought from private individuals.

Mr. MERRILL. Not so far as the securing of that value is dependent upon the Federal lease.

Mr. RAKER. In the same way as their right of way, and all other property that they might put up above that, would be treated.

Mr. MERRILL. Yes.

Mr. RAKER. Well, that is different from every other method of dealing with such propositions in existence to-day, is it not?

Mr. MERRILL. Yes. You asked a question of one of the witnesses here the other day, if I remember correctly, whether there was any reason why a different rule should be advanced in handling these things under Federal jurisdiction than the rule followed under the State jurisdiction?

Mr. RAKER. Yes.

Mr. MERRILL. Of allowing these speculative values to be set up in rate-making proceedings; and I answer you, No, with this qualification, that there is no reason why the State should do it, except that they have gotten into the habit of doing it, and under the present law they must do it.

Mr. RAKER. Well, that would give every other man who is dealing in improving land and other property a chance to get the benefit of the increased value; but the man who is dealing in the water-rights proposition—developing hydroelectric energy, rather upon any part of the public domain—or using any part of the public domain, would not have the right to get the same benefit?

Mr. MERRILL. My position in respect to that is just the same as far as the State's end is concerned—when it is only a State matter and when Federal lands are not involved at all. I disagree entirely with the theory that a public utility, acting as an agent of the public, should have any authority to earn returns on anything other than its actual investment. I would give a fair return; I would give a liberal return on every dollar honestly put into the property; but I would stop there—whether it is a right granted by the Federal Government, or whether it is a right granted by the State.

The whole theory of the right of eminent domain, as exercised by a public utility corporation, is that it is acting in behalf of the public and for a public purpose. In my opinion it is an unconscionable situation that a public utility corporation, taking that sovereign power of the State and using it in that way, may, as soon as it secures the property, turn around and say:

From now on this is merely a private business, and from now on I can set up anything I regard as a reasonable value.

Mr. RAKER. No; I am not trying to get at that at all. I am taking the other proposition, that the property taken from the Federal Government for this lease, which would be in substance the same as exercising eminent domain in a State, because the party is developing hydroelectric energy, you shut off any possibility of enhanced value to the remaining land, that he may buy rights of way over, or where he may buy the land itself; in fact all other property that he may buy; and his neighbor, right beside him, you give him the chance to buy land immediately adjoining, and then, because the man who is running the hydroelectric plant, developed that community, you allow the adjoining man to make large sums of money upon the increase of value, but the man who is actually increasing the value you give him no such right.

Mr. MERRILL. Do you mean that the owner of the adjoining property is another public-utility concern?

Mr. RAKER. No; a private individual.

Mr. MERRILL. Well there is where I draw the clear line of distinction between them. The public-utility man is acting as the agent of the public in his business. He has used, in effect, if not in fact, the sovereign power of the State to get that property. He has either taken it under actual condemnation proceedings or he has taken it under the shadow of condemnation proceedings.

Mr. RAKER. Well the States do not use the same method in dealing with property that he owns which he obtained outside of condemnation proceedings, do they?

Mr. MERRILL. The manner of valuation does not depend upon the method or acquisition.

Mr. RAKER. Now is not the Government assuming to establish a new theory, a new condition, in the public-land States, which it has never attempted to exercise in any other State?

Mr. FERGUSSON. Let us ask these questions, Mr. Raker, when we come to consider the bill in the committee; let us get Mr. Merrill's general suggestions now. Pardon me for interrupting you.

Mr. RAKER. I was asking Mr. Merrill whether in his opinion, in any of the Eastern States they have that theory at all?

Mr. MERRILL. So far as I know the proposition to limit to actual cost the valuation that may be placed on land taken by condemnation is a new matter. And I think it is by all means the most important feature to be considered in this bill.

Mr. JOHNSON. That may, however, be a rule that is not applicable to other public utility agencies. For instance, a railroad or any other corporation which may have exercised a right of eminent domain to secure a right of way does not necessarily lose the appreciation in value.

Mr. MERRILL. They do not.

The CHAIRMAN. But they take a fee title to the property, do they not?

Mr. MERRILL. They do not lose it; but my opinion is that they should.

Mr. JOHNSON. Would you make an exception of this case?

Mr. MERRILL. No; I would apply the rule in the case of all public utilities. I would say that all public utilities, from the fact that they are the agents of the public and that they use the sovereign power of the State to get this property, either directly or indirectly, should not be enabled to turn about, raise the valuation 100 or 300 or 1,000 per cent, and earn returns upon that. I do not believe it is necessary, Mr. Chairman, for me to add anything further to this.

I think the statement that Secretary Lane made before this committee a day or two ago states the facts and the situation as clearly as anybody can state them. I thoroughly agree with his attitude on this proposition.

I may add just one thing more, in relation to the question that you asked a moment ago: I believe that, in all probability, the only certain way by which you could prevent the capitalization of the private lands in the power site for rate-making purposes during the pendency of the lease, would be for the Government to purchase those lands at the outset, and thereafter hold them.

The CHAIRMAN. Will you please state that again; I did not quite understand that.

Mr. MERRILL. The only way would be for the Government itself, at the time of issuing the lease, or on a definite date thereafter, to purchase from the lessee the private properties—the appreciable properties, land and water right, at cost, and hold them.

The CHAIRMAN. There is no way by which you can get the Government, during the pendency of that lease to buy that land.

Mr. MERRILL. Well, I simply said that I thought that was the only manner in which you could tie it down certainly.

The CHAIRMAN And that is impracticable and could not be done.

Mr. MERRILL. I had made a suggestion earlier this morning, that it might be handled in the following manner: That the permittee should deed to the Government, on the acceptance of the lease, the title to the land, and that it might be further provided that any rentals that might be fixed under the bill should be used to liquidate that first cost and the interest thereon; and if there was any unpaid balance remaining at the end of the period, it should be paid to the lessee.

The CHAIRMAN. Well, that will not work. How could the operator afford first to pay the money out of his pocket for the land, and then at once deed away the land, which would be his security for borrowing money for operating it, expecting to get it back, or hopeful of getting it back sometime in the future? It would require such an enormous amount of capital to buy the land, and then deed away all the security on which he could borrow money to finance his project, that it seems to me that your boat would capsize at the start, under that arrangement.

Mr. MERRILL. I am not recommending it at this time. But in order to make it sure, you might have to do something of the sort. Probably the only thing that you can do under present circumstances, or the only thing it would be advisable to do, is to provide in the lease that, so far as the Federal lands are concerned, they shall never be capitalized at any time for rate making or for other purposes.

The CHAIRMAN. I agree with that—although, I do not know about "For rate making purposes." I fear you may get into trouble with the States on that proposition. But I am heartily in favor of holding them down on capitalization.

Mr. FERGUSSEN. Why could not the Federal Government require the man who wanted to get the franchise, or the water power right, to ascertain what the lands were worth that he would need for this whole project, and let the Government condemn it in the first instance and then your rule of not capitalizing the unearned increment, so to speak, would apply to all of it and every part of it?

The CHAIRMAN. I think the same objection would apply to your suggestion as to Mr. Merrill's. The Government can hardly be induced to appropriate enough money to pay the salaries of its officers and the necessary expenses of the Government. And I can hardly conceive that, because some man has a fancy passing through his head that he is going to get a power plant in motion, that the Government—with the Appropriation Committee, headed by Mr. Fitzgerald—would appropriate enough money to pay for any additional land. It is impossible to get them to appropriate for the land that they need for their own use, without attempting to get them to appropriate money to buy other land.

Mr. RAKER. I would like to ask this question, Mr. Merrill: Your statement relative to this charge, and as to the question of allowing the increase of value of property and rights obtained in connection with the lease obtained from the Government, would only apply to hydroelectric power?

Mr. MERRILL. It would only apply under this bill, yes. But as far as a statement of general principles to cover the taking and using of property for public utility purposes is concerned, I think it should apply to all public utilities.

Mr. RAKER. Let me take an illustration: Suppose a man had obtained a fair-sized tract of land, and there were a number of neigh-

bors surrounding him who had no water for irrigation; suppose he went back in the mountains and built a ditch to divert the water to this land, and in doing so he had to cross the Government land to obtain a right of way. Now, would you charge him, or say to him that he should not obtain any value over and above the value at the time he obtained the right of way, for the land that he owned within the territory that he was going to irrigate?

Mr. MERRILL. I think we have misunderstood each other, Judge Raker, in relation to that.

Mr. RAKER. Very well.

Mr. MERRILL. As far as any action from the Federal Government is concerned, I confined it strictly to the hydroelectric power proposition.

Mr. RAKER. Yes.

Mr. MERRILL. What I said afterwards was in relation to the general principle that a State should adopt in handling public utility properties within the State—which is, of course, outside of the question before this committee. The example which you give and the question which you ask relates not to a public utility enterprise but to a private enterprise. Or, if your question assumes that the man who builds the ditch is to go into the business of supplying water generally to all applicants, thereby becoming a public utility, even then it is applicable only to the land occupied by the ditch, and in no sense applicable to the land which he irrigates as a rancher. That land is not devoted to a public use.

There is one other thing that I think the committee may well take into consideration, and that is whether or not it is desirable to provide for the purchase of these properties during the pendency of the lease.

Of course it goes without saying—or, at least I assume that it does—that the Federal Government could at any time, for public purposes, take over these properties, although not under this rule.

Mr. LA FOLLETTE. What is that?

Mr. MERRILL. But not under this rule. If taken over during the pendency of the lease, under condemnation proceedings, the ordinary rules of procedure under ordinary condemnation proceedings would apply. I assume that the Federal Government has at any time the right of eminent domain over any property that it needs for public purposes, but the State and municipality might not, and probably would not, because some part of the properties would be located on the public lands of the United States.

Hence the question arises, and I present it to the committee for its consideration, whether it is not advisable, under proper conditions, to provide for the purchase of these properties, and the private lands in connection therewith, by a State or a municipality before the lease expires. If that is done I do not believe it should be purchased under the rule provided in this bill without modification. My suggestion would be, if a provision for purchase during the pendency of the lease should be put into the bill, that in addition to the value as prescribed under this rule there should be a sliding bonus scale, or that the properties should be taken over under the ordinary rule of valuation in condemnation proceedings.

Mr. KENT. If taken prior to the expiration of the grant?

Mr. MERRILL. If taken up prior to the expiration of the grant. And if a bonus were provided I would suggest this figure: You are

granting the lease for 50 years. If it is taken over during the first year I would give a 50 per cent bonus over the value as prescribed in the bill, and I would cut the bonus 1 per cent for each year thereafter—or some figures similar to these.

The only reason for providing anything of the sort is that it may be extremely desirable, in some instances, before the 50 years have expired, for a State or a municipality to take this property over. It could be done only under specific authority of Congress, and under the ordinary rules of condemnation, if the bill remains unchanged.

Mr. KENT. You are aware of the Chicago Traction cases?

Mr. MERRILL. Yes.

Mr. KENT. It was provided in the Chicago Traction leases that if the property was taken over by the city prior to the expiration of the 20-year grant every cent of money invested should be recognized with 10 per cent profit?

Mr. MERRILL. Yes.

Mr. KENT. And that if they took the property over to turn it over to another lessee it should be taken over with a recognized profit of 20 per cent?

Mr. MERRILL. Yes.

Mr. KENT. Well, do you not think that a 50 per cent bonus would be pretty high?

Mr. MERRILL. Only for this reason, Mr. Kent: I would put it so high in the early years of the lease that if the property of the permittee were taken away he would have time to adjust his business and make a new investment and get started again without any loss whatever. Whether the figure that I mentioned would do that or not I am not sure; I gave it rather as a suggestion. But certainly, if anything of the kind is provided, we would either allow a bonus sufficient to reasonably protect the lessee, or we should provide that the properties may be taken over only under the ordinary rules of condemnation.

Mr. KENT. The ordinary rules of condemnation provide for taking it at the going values?

Mr. MERRILL. The going value and the franchise value. There would be a franchise value, and a considerable one, depending upon how long the lease still had to run. The ordinary rules of condemnation would provide for the fair value of the property used in the business at the time, and would take into consideration the intangible values, such as going value and franchise value, as well as appreciation in value of lands, water rights, etc.

Possibly the wisest course to pursue, if the right were given to take over during the pendency of the lease, would be to determine values according to the ordinary rules of condemnation and to take action in the courts. No investor, under this bill, could properly object to that; because if he did not occupy public lands he would be subject to that rule at all times. I would, of course, not make any provision of that nature applicable in any State in which the municipalities would not have the right of condemnation if the lands were not public lands.

Mr. SINNOTT. Well, if it will not interrupt you, I would like to ask this: What are the properties which may be taken over under the language of section 5 of the bill? They are "properties which are dependent, in whole or in part, for their usefulness on the continuance of the lease herein provided for," and so on.

Now, what properties would come under that classification?

Mr. MERRILL. There would come under that classification all properties whose value would be reduced if the remainder were taken away. I had intended to say just a word about that.

Mr. SINNOTT. You are going into that question, are you?

Mr. MERRILL. I would not have done so had you not called my attention to it.

Mr. SINNOTT. Well, I did not want to interrupt you, of course.

Mr. MERRILL. I doubt the advisability of requiring under the bill that all that property should be covered. I would make it optional with the lessee when he took out the lease to state at that time whether in the event of purchase by the Government he wanted the whole property from end to end taken or only a part of it taken.

The CHAIRMAN. A unit?

Mr. MERRILL. Yes; a unit taken. And the unit that I would require to be taken under any circumstances would be what you may denominate "the power site"; that is, the lands occupied by reservoirs, by conduits, and by power plants.

The CHAIRMAN. You are clear that you would make that the unit?

Mr. MERRILL. Yes; and I am inclined to believe that in general I would add also the primary transmission system. Then, if the permittee says at the time of making his lease, "I would prefer to have it cut apart and taken in part," we will say, "We will take it only in part, provided the part contains the whole power site." If the permittee says at the time of taking the lease, "I will be unprotected if all the property is not taken when that part under lease is taken," the lease should include all the property.

I would leave it optional with the lessee under agreement made with the Secretary prior to the issuance of the lease.

I may add that we have a somewhat similar provision in the permits that have been issued by the department. In one case which came up recently, the Montana Power Co., in Montana, the lease covers only a reservoir site, and there are six power plants dependent upon it. The lease has a provision similar to the one here in the bill allowing purchase by municipalities or by the State——

Mr. SINNOTT (interposing). Mr. Merrill, is it not very hard to conceive of any property which would have any relation with the Government's property, which would not suffer by the severance of that relation, provided the Government had control of the hydroelectric power in that section? Then the power company would have to resort probably to some other source of power, which would probably be more expensive?

Mr. MERRILL. This case that I was just citing illustrates that. A reservoir only was concerned, but that reservoir supplies water to these six power plants down the Madison and Missouri Rivers. The general terms drafted in the lease were practically the same as these in here [indicating]. The company said that it did not desire to have a provision like that covering all its properties; that it wished to have it confined to the reservoir only; and we issued, or will issue, the permit confining the right of condemnation by the State or municipality, under practically the same rule as is in the bill, to that reservoir only, on the condition that the company will not, in any proceeding for fixing the value under that rule, set up any claim for consequential damages for severance of that reservoir from the remaining property.

Mr. SINNOTT. But this rule in the bill would be a statutory rule, and not subject to any change; it would be rigid?

Mr. MERRILL. Yes.

Mr. SINNOTT. It would have to be complied with?

Mr. MERRILL. It would have to be complied with; but you could provide in the statute for fixing, at the time the lease was issued, the property that should be affected by the rules.

I am inclined to think it would be very desirable. Take, for example, one of those concerns out there in California. Take for example, the Pacific Gas & Electric Co., with a property valuation of something over $100,000,000. One power plant in that system could be taken away without serious damage, if proper value was paid for it. It is absolutely certain—or as near certain as one need state—that a provision which required purchase of the entire system could never be invoked, against a system as large as that, by any State or municipality.

I present this matter merely for your consideration, Mr. Chairman, in order that the committee may determine whether it desires to have any such provision in the bill.

Mr. SINNOTT. Well, if the Secretary were to exercise that discretion, would we not have to make some change in the bill?

Mr. MERRILL. You would have to make some change in the language of the bill, yes.

There is just one other matter that I wish to speak about.

I doubt if it is necessary, or even advisable, in providing for recapture under this bill, where the properties are to be turned over to another lessee, such as a State or a municipality, or even a private lessee, for the Government itself to take over anything but the property named in the first class—water rights, lands, and easements therein; because if the Government acquires the lands and the water rights at the end of the period then it is more or less immaterial whether at that time it purchase the other properties. The other properties are not going to increase in valuation, except as they represent actual increase in investment.

Mr. KENT. Well, the power transmission lines might represent an increase in valuation?

Mr. MERRILL. The land upon which they are situated; yes. I am including the land, but not the transmission line itself.

Mr. THOMSON. What was it that you suggested that the Government should take over?

Mr. MERRILL. The water-rights lands and easements in land.

The CHAIRMAN. Well, the water rights are acquired from the State; the lands are acquired from the Federal Government?

Mr. MERRILL. Not all of them.

The CHAIRMAN. That is true; not all of them. Now, what was your suggestion? I thought you were just stating that you would only take over the property acquired from the Government?

Mr. MERRILL. No; I would only take over that first class of property named in section 5 of the bill. That is all that is necessary in order to accomplish the chief purpose of the bill.

The CHAIRMAN. Well, there you would destroy the power of the water power company to finance the project, would you not?

Mr. MERRILL. No.

The CHAIRMAN. Because they have got to make the lenders secure in the fact that they would at least get back the money that they would put into it?

Mr. MERRILL. You do not understand me, Mr. Chairman.

The CHAIRMAN. Perhaps not.

Mr. MERRILL. At the termination of the lease, either one of three options have to be exercised: That the Government shall take over all the properties and operate them itself; that the Government shall take over the properties and release them to another lessee; and that the Government shall continue the lease to the original lessee.

Now, as to the first, if the Government is going to take the properties and operate them it must take all the properties.

In the second place, if the Government is going to take over the property and then release to a State or municipality, or to another private lessee, the Government should itself pay for and retain title in the classes of property I have named—the water rights, lands, and easements. In case of such a transfer the new lessee should come into possession of the works only—the operating properties. The actual payment for the operating properties should be between the original lessee and the subsequent lessee, and not through the hands of the Government. But payment should be made under the rule of section 5, and all property taken should be paid for.

Under the third option, when the lease is reissued to the same lessee, I would have the Government, at the end of the 50 years, secure title to the appreciable property—the lands, water tights, and easements—and from then on own that portion of the property and lease it to the lessee.

Mr. RAKER. Is it your theory, Mr. Merrill, that under the ownership of the public land, and a direction that they should dispcse of them, the Government could embark in a general business such as suggested by you?

Mr. MERRILL. General business of what?

Mr. RAKER. Of owning and controlling hydroelectric systems?

Mr. MERRILL. Owning and operating?

Mr. RAKER. Yes.

Mr. MERRILL. I do not know whether it could be done under the rights in the public lands; but my opinion, so far as my judgment now goes, is that operation of power plants by the Federal Government for other than its own purposes would be inadvisable anyway.

Mr. RAKER. I see.

Mr. MERRILL. I do not believe it is either necessary or advisable for the Federal Government to embark in the public utility business. I believe that the hydroelectric development in the west is going to come, and must come, from the investment of private capital.

I believe that the conditions under which a lease should be granted should be such that the lessee, at the time he takes his lease out, can know what is going to happen clear through to the end of the lease I believe there should be no conditions in the lease that would prevent the lessee from earning a fair and generous return on every dollar that goes in, with which there is no fraud connected. I believe when you have done that, you have done all that can be reasonably asked.

Mr. SINNOTT. I wanted to ask one question. You stated this morning that a public water service commission would prevent

duplication—if we turned this call over to some public water-power commission?

Mr. MERRILL. Public-utilities commission—but a national commission.

Mr. SINNOTT. Yes.

Mr. MERRILL. I stated this morning that I believed that if the broad powers provided by this bill as originally drafted were to be conferred upon the Federal Government, they ought not to be conferred upon any department, but should be handled by a commission like the Interstate Commerce Commission. If those broad powers are not conferred, and if the Secretary is merely to act in the absence of any action in the State, the matter may rest where it is.

Mr. SINNOTT. I received this morning, and I presume the other members of the committee have received, a copy of a letter addressed to the chairman of this committee by Mr. Gifford Pinchot, and I thought he made a very strong prima facie showing on this point, that the duplication could be prevented by the retention of this matter in the Forestry Service. Have you seen that letter?

Mr. MERRILL. I have a copy in my pocket, but I have not read it.

Mr. SINNOTT. Yes. And I wanted to get your opinion upon that proposition, whether or not if it should be retained in the Forest Service, the duplication would be prevented in that way?

Mr. MERRILL. It seems to me that that is a matter entirely for the committee to decide. I do not want to express any opinion upon that either one way or the other.

Mr. SINNOTT. Yes.

Mr. MERRILL. I might merely state, as a matter of fact, and of fact only, that the organization which the Forest Service now has for handling work of this character is the least that the service can maintain to do its other engineering work.

Mr. SINNOTT. Yes.

Mr. MERRILL. And that if this work is not done by us, it will not be possible for us to reduce our force here; it will be necessary to increase the force on the other side.

Mr. SINNOTT. Well, I merely mentioned that for the reason I thought your proposition would really amount to a triplication; you are going to have a third department?

Mr. MERRILL. No. My proposition would be that if we are going to the extent of conferring such broad powers as this bill originally provided, the proper solution of the question under such a situation is to combine the water powers on the public land and on the navigable streams, and handle them all by a central commission, and leave the departments out of it entirely.

Mr. SINNOTT. Well, would that in any way diminish the number of employees in the Forest Service?

Mr. MERRILL. It would not.

Mr. SINNOTT. It would not?

Mr. MERRILL. No; but I may add to that, that in my opinion, such broad powers are not necessary or advisable.

Mr. SINNOTT. Well, is the Forest Service as it now exists sufficient to handle this bill?

Mr. MERRILL. It is handling the present law, the act of 1901, in which the conditions of the permits granted are practically identical with those which are incorporated in this bill.

Mr. THOMSON. It would handle these propositions, so far as they were located within the National Forests?

Mr. MERRILL. That is all, under the present division of jurisdiction, but it could handle them all without any material increase in force.

The CHAIRMAN. And the other water powers are withdrawn, not being handled at all, scarcely at all, are they? And what little handling of them is done is, I presume, in the Interior Department, is it not?

Mr. MERRILL. Whatever water-power rights are involved on lands outside of the National Forests are handled entirely by the Interior Department. Where a project falls on land both within and without a national forest, the original handling of the case is by the Forest Service, for the sole reason that the Forest Service is provided with a field organization and the Interior Department is not. So that our engineers——

The CHAIRMAN (interposing). Would you handle it through the regular foresters who traverse the forests? They do not know anything about power, do they?

Mr. MERRILL. No.

The CHAIRMAN. They are men who receive $60 or $75 a month, are they not?

Mr. MERRILL. We have in our organization at the present time, in every district except one, engineers who have come in under the classification of hydroelectrical engineers; men of actual experience in water-power work.

The last man whom we appointed to such a position was a man who had been for several years with the Aluminum Co. of America, engaged in water-power development work. He had constructed the Massena plant on the St. Lawrence River, and had done considerable development work for that company in the South, and he was a man who was thoroughly acquainted with the hydroelectric business, and he was appointed for that reason.

The CHAIRMAN. Well, that is in connection with the office force that you employ here and not men that you send out?

Mr. MERRILL. No; we have an engineering force in each district in the West; we have district offices in San Francisco, Portland, Oreg., Missoula, Mont., Ogden, Utah, Denver, Colo., and Alberquerque, N. Mex.; each of those districts, with one exception, is supplied with an engineer; and the exception is because there is but little water power in the Alberquerque district.

The applications that come before the Forest Service for water power leases or permits are handled almost exclusively in the district offices, by the district foresters as administrative officers, and by the district engineers as technical officers.

The details of the arrangements between the department and the permittee are handled, except in extraordinary cases, almost entirely by the district force right on the ground, who have been out and examined the project and are acquainted with the conditions; and in the ordinary case the only thing that is done in the Washington office is to review the reports as presented, to see if proper conditions have been attached, if proper computations of the rentals have been made, and to have the permits executed by the Secretary of Agriculture and returned.

The CHAIRMAN. The answer to all of this is, however—and it can not be controverted by anybody successfully, I believe—that to have

the War Department running one branch of the water power proposition; to have the Interior Department running another branch of the water power proposition, and to have the Forest Service handling another branch of water power is tempting somebody to say what Senator Aldrich said here a few years ago about the expense, and the duplication and triplication and the silliness of the way the Federal Government is conducting its business.

Mr. RAKER. We have got another case——

The CHAIRMAN (interposing). And I will say now that either the Interior Department should have it or the War Department should have it or the Forest Service should have it. For the moment we are not going to enter into that commission proposition. But I will say, with all the force I can, that I hope it will be the final decision of this committee and of Congress to look to the propostion of having some responsible head somewhere that Congress can put its hands on and make it handle this water power question. It might result in a commission finally, although I am opposed to such a proposition.

Mr. KENT. Well, look where we are coming out now——

The CHAIRMAN (interposing). Well, do not let us go into that now——

Mr. KENT. I want to suggest that in every one of these bills we have piled up on the Secretary of the Interior (the only place where we could pile them up) options and discretions that will break anybody's back; and we have got to have a Federal public utilities commission before we get through.

The CHAIRMAN. Well, we can not go into that now. You see the bill is carefully worded so that the discretion is placed in the Secretary of the Interior, and if we commit it to such body as may be provided by Federal statute that of course might bring up the question of turning it over to the Forest Service, or turning it over to the War Department or turning it over to some commission. We will have to leave that an open question. We have a large enough proposition now without having the departments engaged in a controversy on the subject.

Mr. SINNOTT. Referring to the top of page 3, what will be the means employed to effect that physical combination of plants or lines, and so on?

Mr. MERRILL. I did intend to call attention to the language of that section as amended. As I read it, the only combination of any kind that the Secretary would have authority to prevent is a combination caused by a physical connection—one that is the result of the physical connection; and if the combination that existed was not effected by a physical connection, he could not prevent it.

Mr. SINNOTT. I did not quite understand that.

Mr. MERRILL. The language of the section as amended reads as follows:

> That there shall be no physical combination of plants or lines for the generation, distribution, and use of power or energy under this act, or under leases given hereunder, creating combinations and agreements, arrangements, etc.

Now, as I understand that, it means——

Mr. SINNOTT (interposing). What are you reading from?

Mr. MERRILL. I am reading from section 3.

Mr. KENT. You are not reading from the original bill; you are reading from an amended copy?

Mr. MERRILL. Yes; I so stated, that as amended I think the provision says that the only combination that the Secretary can take cognizance of is one that is effected by a physical combination.

Mr. KENT. What we want is the possibility of physical combination without the financial combination which would result in injury?

Mr. MERRILL. Exactly.

Mr. KENT. And the thing has just been absolutely reversed from the orginal meaning of the bill?

Mr. MERRILL. It seems so to me.

Mr. SINNOTT. I would like to know how complicated is the process of effecting this physical combination; what are the mechanical means of doing it?

Mr. MERRILL. The mechanical means are merely to connect up, through some switching arrangement, the transmission line of one company with the transmission line of another company, and to see that the generating plants of the combined companies are operating, as they say in electrical parlance, "in step."

Mr. SINNOTT. That might be done just by the ordinary means of two poles and wires being joined together—transformed?

Mr. MERRILL. It can be a very simple arrangement. It is no more complicated an arrangement than it is to put on a branch transmission line.

Mr. JOHNSON. I would like to ask Mr. Merrill a question. Mr. Merrill, you differentiated this morning with reference to the size of the plants—that is, their producing capacities. I forget what line you adopted there?

Mr. MERRILL. The statement that I read differentiated between plants of 1,000 horsepower capacity and those above that, with the statement, I believe, that if they were above that amount they might properly be required to organize as public utilities.

Mr. JOHNSON. Yes. Now I want to state to you, as a preliminary to the question which I shall ask, that in my State there are a large number of water powers, which are, many of them, yet undeveloped, containing all the way from 4 to 5 second-feet of water up to 20 or 30 second-feet. You understand what I mean by a second-foot of water, do you not?

Mr. MERRILL. I certainly do.

Mr. JOHNSON. Now, are there any reasons for making the 1,000 horsepower the limit?

Mr. MERRILL. No particular reason, except that I am inclined to believe that the larger developments had better be required to come directly under public utility regulations.

Mr. JOHNSON. In my State many of these small streams which contain, as I say, a very limited quantity of water, are now in course of being developed—plants being constructed for practically private use.

Mr. MERRILL. Yes.

Mr. JOHNSON. And there are very many. Indeed, the most of our generating systems in the State are small. We have, I assume, in in the State from 60 to 75 independent companies. Most of them are very small. There are many yet smaller now in the course of erection; and there will be still more if this bill goes into effect.

Would you suggest any difference in the treatment, or the royalty, or the mode of operation under this bill with reference to these small plants?

Mr. MERRILL. What we have done in the department, Mr. Johnson, is this: That if any plant had a capacity of less than 100 horsepower as we compute it, which would mean anywhere from 100 to 300 horsepower in machinery, we require the simplest form of an application, and we make no charge; a free permit is given.

Mr. JOHNSON. Yes. Now, would you recommend the insertion in this bill of some such provision?

Mr. MERRILL. I would.

Mr. JOHNSON. That is all.

Mr. MERRILL. On the question of the transfer of jurisdiction over water power in the national forest, I wish only to present to the committee certain facts which should properly be taken into consideration in determining whether or not such transfer is desirable from the point of view of the public administration of the public lands, reserved and unreserved. I shall briefly discuss the several factors, but shall not attempt to draw any final conclusions or to express any opinion as to the weight which should be given to the several factors in the question. The final decision is a matter which rests entirely with Congress, and in such decision personal preference should receive no consideration.

I wish first to state briefly the present procedure. Recognizing the desirability of concurrent and uniform action, the two departments in 1912 and 1913 collaborated in the drafting of uniform regulations for the administration of water power under the jurisdiction of the two departments. There are minor differences of procedure due to the different organization of the two departments. For example, the Department of Agriculture handles the work under a decentralized organization. In ordinary cases the negotiations with respect to the variable conditions of the permits, the preparation of reports, securing signatures to the agreement—the actual business relations with applicants are carried on in the field by the district foresters with the assistance of the hydroelectrical engineers located in each district. The papers come to Washington only for approval of the terms and for the signature of the Secretary. The Interior Department, on the other hand, has a centralized organization, and all the details in the preparation of permits, except the formal filing of the application, are handled in Washington. In those instances in which the lands under the jurisdiction of both departments have been involved it has been the practice—because the Interior Department has no field force equipped or available for the work—for the engineers of the Forest Service to make the examinations and reports for the entire project, and to submit their reports to the Interior Department as a basis for action in that department as well as in the Department of Agriculture. Thereafter, concurrent permits have been issued by the two departments.

With this brief explanation of the present practice, I wish as briefly as possible to discuss the factors involved in a change from the above procedure.

The present practice, where lands of the two departments are involved, requires an applicant to make duplicate filings with the district forester and with the register and receiver of the local land

office. This is an inconvenience which could be remedied by making filing in one department serve for both. The applicant is put to the further inconvenience of dealing with two departments in negotiating the terms of his permit. This could be obviated by making it the duty of the department receiving the filing to handle the case in its entirety. Both of these inconveniences could also be obviated by giving sole jurisdiction in all cases, whether on or off the national forests, to one department.

On the other hand, the unification of jurisdiction means a dual administration of the occupancy and use of the same public property; a national forest can be most effectively handled as a unit; the various uses are necessarily interrelated, in a broad sense they overlap; water-power sites can not be segregated physically and administered independently of the rest of the forest of which they form a part. One of the dominant purposes for which the forests are maintained and improved is protection and full development of water resources. Water power is directly dependent on the handling of the watersheds. Other forest interests may be seriously affected by the manner in which power sites are handled.

In the administration of water power, consideration must often be given to overlapping uses which may be conducted without conflict on the same area and also to the activities on the rest of the national forests. In many places the location of dams, conduits, transmission lines or other structures would affect the use and development of timber and other resources in the national forest. The possible conflicts are now foreseen and adjusted because the power business is directed by those who have also the direction of the administration of the national forests as a whole. The administration of the power sites by another office which has under consideration only the interests of the power work and not of the rest of the forest might lead to unnecessary conflict with other uses of the forest. It might easily happen that large bodies of timber would be bottled up because of failure to anticipate such a possible conflict; in fact, this situation must be constantly met. One dam on the Kings River in California, had the case been handled independently of the Forest Service administration, would have closed the only practicable outlet to two and a quarter billion feet of Government timber. The possibility of conflict is demonstrated by difficulties even now arising on water-power withdrawals made by the Interior Department on the National Forests without consulting with the Department of Agriculture.

Other things being equal, it is contrary to ordinary business principles to have any property, public or private, administered by different managers, each attempting to direct some phase of its use independently of the other manager. The most efficient administration can be secured only when there is one directing head over all uses. Outside expert assistance may be needed and used, but it should be under the direction of a single responsible head.

The total amount of developed and undeveloped power in the national forests on a basis of 28,000,000 horsepower for the entire United States is about 11,700,000 horsepower. This is 50 per cent of the total within those States containing national forests and 42 per cent of the total within the United States. Much higher estimates than the above have been made for the total water power in the United States. Were such estimates correct, the result would

be merely to vary the amounts but not the percentages of the preceding figures. Not over 50 per cent, probably very much less, of the potential power outside the national forests in the public-lands States is under the jurisdiction of the Interior Department. There were outstanding on November 1, 1913, 186 permits for water-power projects and 96 permits for transmission lines on the national forests, aggregating more than 1,000,000 horsepower and involving property values of hundreds of millions of dollars.

The Department of Agriculture has been administering water-power sites on the forests under a consistent policy and along the general lines of the proposed bill for some eight years, and has developed a well-established and definite procedure, which is working well and resulting in extensive development. It would be a serious loss to throw away all that has been gained and make a fresh start.

The Department of Agriculture has a competent field organization carrying on the water-power work. This not only includes special hydroelectric engineers stationed at the district offices, but there is used to the full the regular national forest force in negotiating with prospective permittees, in making reports, and in oversight of plants under construction and in operation to see that the interests of the Government are protected. It would be a serious loss—immediately if not ultimately—to lose the experience which has been gained.

The Interior Department has no force available for handling the additional work which would be thrown upon it by a transfer. The force now employed by the Forest Service, both general and special, will continue to be required for the other engineering work which the service performs. It would not be possible to dispense with either the force or the funds because the present engineering organization is the least that could be provided to do any work at all. It will be necessary, therefore, to build up in the Interior Department a separate and duplicate organization at a cost of from $50,000 to $75,000 a year, or to use the national forest organization under orders from another department, thus placing the field men under two separate directing heads; or to attempt a long-range management from Washington. If economy of administration were the only consideration the Department of Agriculture could take over and handle the water powers on the public lands outside the national forests by the addition of one engineer to its present force.

The satisfactory solution of the water-power question depends upon the adoption of a Federal policy more than upon the assembling of administrative jurisdiction of all reservations and classes of public lands, created and administered for different purposes, into the hands of one executive. With such a policy settled, its application by different departments on the lands under their charge can, if they so desire, be effectively correlated and harmonized.

The type of organization of the Forest Service results in greater efficiency in handling the work. During the last three years in which the present organization has been in effect, the Forest Service has handled 217 water-power cases with an average period of four months between the dates of filing an application and of delivery of permit. Since in most cases applicants are allowed three months to execute stipulations and many of them take the full time, the above record shows an efficient organization efficiently handled. The field exam-

inations, preparation of reports, and direct dealings with applicants in cases of easements on the national forests are conducted by the field officers of the Forest Service. The General Land Office merely accepts and records the application, transmits it to the Forest Service, and approves or rejects it on its return. From a record of 756 approved easements on the national forests, the average time between filing of application and approval thereof has been 23.8 months, of which time 2.6 months were taken by the applicant in executing the stipulations, 5 months by the Forest Service in examinations, reports, and dealings with the applicants, and the remaining 16.2 months by the Department of the Interior, or 11, 21, and 68 per cent, respectively. Since this record extends over a period of some ten years, the time consumed in handling the cases is probably less at the present time than is shown by the above figures. The larger part of the difference between the time required by the two departments is explained by the different type of organization. The Interior Department could not approach the results which have been secured by the Department of Agriculture without a reorganization.

The preceding considerations assume that the functions of the Federal Government will be limited to approximately those now exercised in the administration of water powers on the public lands. If, however, the broad powers which the unamended draft of the bill provides for are to be exercised by the Federal Government, and the Federal Government is to assume over more than half of the public land States—or even in all interstate business—the functions of a public utilities commission, a far greater force will be required than is now employed by both departments and a different form of organization will be necessary. Under such circumstances, I seriously doubt the advisability or the propriety of conferring such functions on any executive department. I believe that in such an event, the administration of all water power, both on the public lands and on the navigable streams of the United States, should be centralized and be conferred upon a national water-power commission having a standing and an authority similar to that of the Interstate Commerce Commission.

The CHAIRMAN. Mr. Kent wants to say a few words for the record; and after that we will hear Mr. Finney, of the office of the Secretary of the Interior.

Mr. KENT. I will not take over three minutes, Mr. Chairman.

I have heard a great deal about the question of relative values of the various properties that enter into these power plants. That, to me, is a matter of a great deal of indifference. Our function here is not at all the same as the function of a private landowner.

I will give you an example from my experience:

At one time I had a piece of property in Chicago that was needed for a railway terminal, and I found that the piece of property that I owned was the key to the situation. And I could have held that railway company up; instead of doing which, I sold that property to that railroad company at a fair value. I thought I would have been doing a wrong as a private individual to hold that railroad company up on that particular piece of property.

Now, on this proposition before us, it is not a question of cutting down and abandoning our rights as sovereign, as Mr. Leighton said. It is a matter of our using the power vested in us to protect the public welfare, to protect the public interest.

We must pay all due heed to the proper right, the proper return, and recognize the business end of the transaction; but we are not here to sell public land at its fair cash value. We are here to legislate for the general public welfare, and for the protection of the consumers of power, in their right to have that power at the lowest price commensurate with proper earnings of the company, with such earnings that the companies are willing to put in their plant and to develop this power as an agency, a partner of ours.

As I conceive these public power plants, as I consider all public utilities, they are performing a function which society might perform for itself—the Federal Government, the State, the city or any other subdivision of the Government.

They should be treated as partners in every way possible. We should eliminate from them the element of risk, because, as Mr. Merrill and other gentlemen who have appeared here have stated, the element of risk is something that we would have to pay for over and over again.

But the main thing for us to consider is, first of all, what can we, with the power in our hands, with these people coming to us and asking for rights on the public domain—what can we exact from these people for the public interest, we being trustees of the public interest? And it is not at all equivalent to a private individual using a position of power to hold up a proposition for his private interest. We are trustees of the public welfare, and we are not to be called "hold-up men" because we use the power vested in us, when these people come to us and ask for a grant—we are not to be considered as "hold-up men" if we do all in our power to protect those who look to us as trustees for protection.

That is all I have to say.

STATEMENT OF MR. EDWARD C. FINNEY, ASSISTANT ATTORNEY, DEPARTMENT OF THE INTERIOR.

The CHAIRMAN. Mr. Finney will you give us your views on this bill?

Mr. FINNEY. All right; I do not care to take much of the time of the committee, Mr. Chairman.

The CHAIRMAN. I would like to say for the record at this point that the committee is very much indebted to Mr. Finney for his long hard work here with us on a number of bills; and we appreciate the work of the department officers who have come here. But I personally feel doubly indebted to Mr. Finney for his untiring efforts here in helping me, and in drawing amendments for the committee, especially on the bills that have preceded this one.

Mr. FINNEY. Mr. Chairman, several of the engineers who have spoken have raised some supposed constitutional questions with respect to this bill, and I would like briefly to answer the points that have been made.

One contention was that the provisions of section 1, line 4, page 1 of the bill, which authorize the Secretary of the Interior, "under general regulations to be fixed by him," to lease land might be unconstitutional, the case of Field *v.* Clark (143 U. S., 649) being cited in that connection.

I have looked over that decision rather carefully, and I want to say that it lays down the doctrine, with which we all agree, that under our Constitution the legislature can not delegate to an executive officer its power to make law. But I think it supports the constitutionality of this provision, because it did find that, under the act there involved, Congress had a right to give the President power to suspend provisions of a law upon the happening of certain contingencies. And it also sustained the power of Congress to constitute the President as its agent to determine some facts upon which the law made his future action dependent.

Mr. SINNOTT. What was the question in issue in that case?

Mr. FINNEY. That involved the tariff act; and one provision, as I recall it now, was that the President, in the event that certain other countries did or failed to do certain acts, might suspend the operations of our act. That was one of the matters involved, and he did suspend it, and the court sustained his action.

And then he was authorized to make a certain determination in the administration of that act, of facts upon which his action would rest. He did make that determination, and the courts sustained the authority of Congress to vest in him that power.

And as I said a moment ago, the court then, of course, made the particular statement that Congress can not delegate to an executive officer the power to make law; I do not think any one will dispute that. A later decision of the Supreme Court, which clearly sustains the constitutionality of this provision authorizing regulations to be made by an executive officer is the United States versus Grimaud, 220 U. S., 506.

The court there cited a number of previous decisions of the Supreme Court of the United States and of the States and said that while Congress can not delegate legislative power to an executive officer—

> The authority to make administrative rules is not a delegation of legislative power; nor are such rules raised from an administrative to a legislative character because the violation thereof is punished as a public offense.

The Grimaud case involved an offense against certain rules and regulations promulgated by the Secretary of Agriculture, under the act of June 4, 1897, and the court sustained his right to make those regulations.

That decision was also cited and followed in the case of Light *v.* United States (220 U. S., 523).

Another constitutional point suggested was whether the United States has the authority to withhold lands containing power sites from sale or disposition under the public-land laws and lease them.

I think perhaps one of the other gentlemen who appeared mentioned the fact that the question was involved in the case of Light *v.* The United States (220 U. S., 536); and I believe a memorandum was inserted in the record, which was a quotation from that decision.

That case seems to me to hold that the United States can dispose of its lands, or withhold them from disposal, or it can establish reservations for public purposes; and that when Congress has so acted no one can question its right so to do.

Mr. RAKER. Did not that Light case in substance also lay down this rule that this reserve was made for the protection, or with the intent of protecting the Government's property pending the time

that it desired to finally dispose of it, and did it not relate more particularly to the protection of the Government's right in its ownership, and not get into the question of any disposition or any other thing than the mere fact of preserving the property that was in the Government?

Mr. FINNEY. Well, I do not so understand it, Judge Raker. It involved a forest reservation; and incidentally the court cited a number of cases, some of which do have the idea which you suggest; that is, that the lands are held or protected or preserved with a view possibly to ultimate disposition.

But it cited, for instance, this language from Stearns v. Minnesota (179 U. S., 243), as follows:

The United States can prohibit absolutely, or fix the terms on which its property may be used; as it can withhold and reserve the land, it can do so indefinitely.

Mr. RAKER. Well, what I was asking in my question was, if the real crux of that decision and the facts involved in it did not relate solely to the fact of preservation?

Mr. FINNEY. No; I still do not think that. It concluded in this way:

All the public lands of the Nation are held in trust for the people of the whole country, and it is not for the courts to say how that trust shall be administered. That is for Congress to determine. The courts can not compel it to set aside the lands for settlement nor suffer them to be used for agricultural or grazing purposes nor interfere, when in the exercise of its discretion, Congress establishes a forest reserve for what it decides to be a national and public purpose. In the same way in the exercise of the same trust it may disestablish a reserve and devote the property to some other national and public purpose. These are rights incident to proprietorship, to say nothing of the power of the United States as a sovereign over the property belonging to it.

Now if the creation of a forest reserve for the protection of timber and the conservation of the water supply is a public purpose; if the creation of a military reservation for use in case of a possible war 50 years from to-day is such a purpose, it seems to me that the reservation for the protection of valuable water-power sites for the immediate and continuous benefit of the people of the country is also a public purpose. I believe our people are more directly interested in having their homes lighted and in having water pumped to their lands than they are perhaps in the preservation of timber or in the possible happening of war in the future.

Mr. SINNOTT. Mr. Finney, have the courts ever within your knowledge defined the term "primary disposal"? I think as a rule the enabling acts of most of the States contain a provision by which the States agree not to interfere with the Government's primary disposal of the land. Now, I was wondering what that term, "primary disposal of the land," meant; whether that is more restrictive than "disposal," and what was the object in putting that language in those enabling acts?

Mr. FINNEY. So far as I know, I know of no decision construing that language. I do not remember the exact language of those enabling acts. I have always assumed that the purpose was a disclaimer on the part of the States of the right to interfere with the Federal Government in its control of its own land and the disposition thereof or perhaps the use of those lands.

Mr. FERGUSSON. I think that has been decided in our State by some court; and that it was held that it simply refers to the fact

that the Government's sovereignty over its own lands shall not be impaired in the slightest degree by the fact that the State has been erected.

Mr. FINNEY. Yes.

Mr. FERGUSSON. But "primary disposal" means the first right to dispose of it; the States can not interfere with that, although it is a separate entity?

Mr. FINNEY. Yes. Another question raised by some of the gentlemen who have appeared here involved the provisions of section 5 of the bill, particularly that portion which provided for taking over the land and rights of way, water rights, and interest purchased by the lessee. It was suggested that that provision might be confiscatory and therefore in violation of the Constitution.

I think that that argument would have force if it related to taking over property that had been acquired prior to the passage of this act by a public utility corporation or perhaps in some other manner than that contemplated by this bill.

But under this bill the matter is one, as already suggested, I think, of contract entered into between the lessee and the United States at the time the development is initiated. It is part of the consideration for the lease, and it seems to me that it is a valid, enforceable contract and is not unconstitutional or illegal.

Mr. RAKER. Have you thought of this feature of the matter—and if you have I would like to have the benefit of your study of it:

Would it be primary disposal or any disposal of the Government land if the Government leased, say, 100 acres of land to an individual who desired to develop hydroelectric energy and then, as a condition to obtain that lease, controlled the primary disposition of the land that the man owned otherwise and obtained otherwise than obtaining it from the Government?

In other words, is not the Government, by virtue of this lease, as the rules that are suggested here would provide, practically interfering with the State's disposition of the other land in the State that has gone into private ownership?

Mr. FINNEY. Let me see if I understand your question correctly: A party enters into one of these leases?

Mr. RAKER. Yes.

Mr. FINNEY. And acquires a tract of Government land; and in connection with that he acquires, by purchase or condemnation, certain private lands?

Mr. RAKER. Well, assuming that he has owned them before.

Mr. FINNEY. All right; assume that he has owned them before; but he puts them in and uses them as a part of this plant?

Mr. RAKER. Yes.

Mr. FINNEY. Now, is it your thought that this provision in the bill would prevent what—condemnation by some other public service corporation?

Mr. RAKER. Yes; that would be one incident, would it not?

Mr. FINNEY. Under State laws?

Mr. RAKER. I am asking you if you have gone into the subject sufficiently to enable you to give us an expression of your opinion on it?

Mr. FINNEY. I have not given it any consideration; no.

Mr. SINNOTT. It may throw a little light on Judge Raker's question, and we may be proceeding along the same line, if I suggest this. As

I understand it, the courts have repeatedly decided that a lease is a disposal of the land. Now, the Government having leased the land, is that a primary disposal of the land?

Mr. FINNEY. I think there has been a distinction drawn by the court.

Mr. SINNOTT. Yes.

Mr. FINNEY. It is so stated by certain text writers, I know, and that distinction is that the lease of minerals in land is a disposal of those minerals.

Mr. SINNOTT. Yes.

Mr. FINNEY. Because the lessee takes something out of the realty which can not be replaced; it is part of the realty and disposes of it; it is a disposition and it is gone.

On the other hand, a lease of agricultural property, like a farm, is not a disposal, because at the end or the expiration of the leasehold that same farm comes back to the owner.

Now, I would be inclined to think that the same distinction would apply, for instance, between the oil and gas leasing bill that you have been considering and this bill, that under the oil and gas leasing bill there will be a disposal of those minerals, and here there will not be a disposal of the realty.

Mr. SINNOTT. Of course, if these leases were held to be a disposal of the land, then the land would become subject to the laws of the States by necessary implication?

Mr. FINNEY. Yes; but I do not think they are; they come back just as a farm would come back at the end of the period of the lease.

I am not an engineer; but I want to suggest that my understanding with respect to Mr. Merrill's criticism this morning, as to the impossibility of regulating interstate electrical propositions is somewhat different from what I understood him to say.

I though he said that electricity could not be measured; that it was a service and not the delivery of a commodity. I know from experience with the Reclamation Service, that electricity is sold and measured by horse power, or kilowatt hours—it is metered. I know that in the city of Washington, if I get electricity from the Potomac Light & Power Co. at my house they do not charge me for lighting that house by the month, but they charge me so much for that electricity metered and measured.

Mr. KENT. The same as gas?

Mr. FINNEY. Yes, the same as gas.

Mr. MERRILL. Mr. Chairman, may I set Mr. Finney straight on that matter as to my views?

The CHAIRMAN. Certainly.

Mr. MERRILL. It was only my intention to say this, Mr. Finney, that where power plants and transmission lines cross State lines, it is impossible to tell whether the power generated on one side of the line is used on the other or not?

Mr. FINNEY. I still do not understand you.

Mr. MERRILL. I will give you one illustration: Say there are four streams coming into a reservoir, and you draw the water out at the lower end of the reservoir; you do not know whether that water came out of the stream A, B, C, or D.

Mr. FINNEY. You are assuming that there is a stream on each side of the State line. But suppose we have one large power plant in

California which generates electricity and that power is transmitted into Nevada. Is it not possible to meter every horsepower of that electricity at the State line?

Mr. MERRILL. It is, in that case, yes.

Mr. FINNEY. Now, with respect to section 4 of the bill and the provision there that "No sale or delivery of power to a distributing company shall be made, except upon the written consent of the Secretary of the Interior," I would like to read an extract from a statement of an engineer. Mr. M. H. Gerry, of Montana, a very able electrical engineer, addressed a letter to the Secretary of the Interior indorsing generally the provisions of this bill and making some criticisms, and in that connection he said:

> I believe an important condition of a power grant is the prohibition of joint control over the business of generating and transmitting hydroelectric power, and of the business of distributing and utilizing the electric energy. In any set of regulations I consider this the most important.

I just read that as showing the wisdom of having some control over the sale of power from the generating company to one which is engaged purely in the business of distributing light and power. There might be cases where it is extremely desirable that such sales be permitted. There may be other cases where it would be very harmful, and would be an injustice to the community around about the generating plant, who might have demands for that power, or part of it.

In the same letter there is an interesting comment with respect to the question of whether water power is a practical monopoly within the region of generation. Mr. Gerry says:

> Another matter of public concern in connection with hydroelectric properties I believe to be the encouragement of the development of such enterprises by local capital. It has been contended by some that monopoly is beneficial, and that water-power projects should be turned over to great corporations specializing in certain fields.
>
> It is true that in some cases there is physical advantage resulting from the combination of several plants, but this situation has been much exaggerated, and many of the operating properties would be in better condition financially as independent projects serving local territory. The development of such projects is often well within the limits of home capital, and if given some encouragement and preference by the Government, they will be taken up by local investors, which is a situation greatly to be desired in the development of any community.

The committee asked me to prepare a brief memorandum list of existing acts of Congress which might be repealed, in whole or in part, by this bill if enacted into law.

Mr. THOMSON. By that last repealing clause?

Mr. FINNEY. Yes.

Mr. THOMSON. I wonder, Mr. Chairman, if it would not be better to take those up when we get to that clause. We have to get down to that anyhow?

Mr. FINNEY. Yes.

The CHAIRMAN. I did not quite get the suggestion; my attention was diverted for a moment.

Mr. THOMSON. Mr. Finney, at our request, has compiled a list of acts of Congress that might be repealed by that last clause of the bill. I suggest that we take the matter up when we get to that clause.

The CHAIRMAN. Do you mean when he presents it to the committee?

Mr. THOMSON. I assume that Mr. Finney is going to be with us when we go over this bill in the committee.

The CHAIRMAN. Yes, he is. Are you going through the bill now, Mr. Finney?

Mr. FINNEY. No; I am just taking this one question up of the act which will be repealed in whole or in part by this bill.

The CHAIRMAN. Without objection that will be inserted in the record at this point.

(The paper referred to is as follows:)

In my opinion the following acts, or parts of acts, would be repealed by H. R. 14893, if enacted:

Section 2 of the act approved May 11, 1898 (30 Stat., 404), granting right of way for ditches, canals, or reservoirs for the development of power as subsidiary to the main purpose of irrigation.

The act of February 15, 1901 (31 Stat., 790), an act authorizing under license or revocable permits the use of rights of way through public lands and other reservations of the United States for electrical plants, poles, lines, etc., would be repealed to the extent to which the statute applies to any use or occupation of the public lands, national forests, or other reservations exclusive of national parks for the development, generation, transmission, and utilization of hydroelectric power.

Section 4 of the act of Congress approved February 1, 1905 (33 Stat., 628), granting rights of way for the construction and maintenance of dams, reservoirs, water plants, etc., in and across forest reserves for municipal or mining purposes, and for the purposes of milling and reduction of ores would be repealed in so far as those uses involved the development, generation, transmission, and utilization of hydroelectric power.

It would repeal so much of the act of March 4, 1911 (36 Stat., 1253–1254), as relates to rights of way on public lands, national forests, and reservations for electrical poles and lines for the transmission and distribution of electrical power.

It would not repeal sections 18–21 of the act of March 3, 1891 (26 Stat., 1095), which relate to rights of way for irrigation.

It would not repeal so much of section 2 under the act of May 11, 1898, supra, as relates to the use of rights of way for water transportation or for domestic purposes.

It would not repeal so much of the act of February 15, 1901, supra, as relates to the use of public lands under permit for any irrigation, mining, quarrying, manufacturing, domestic, or other public use described in the act not connected with the development, generation, transmission, and utilization of hydroelectric power.

It would not repeal so much of section 4 of the act of February 1, 1905, supra, as authorizes the use of the public lands for storing or conveying water for municipal or mining purposes or for the purposes of milling and reduction of ores.

The CHAIRMAN. I would like to have you now go through the bill very briefly, Mr. Finney, if you will.

Mr. THOMSON. I suggest this, Mr. Chairman: There are only a few members of the committee in the room, and you are going to try to get a full attendance when we go through the bill in committee. And all that Mr. Finney goes over now, in skimming over the bill, we will have to go through again when we come to consider the bill section by section.

The CHAIRMAN. The point is, Mr. Thomson, as Mr. Kent has suggested, that we would like to have it in the record for the information of those who might read it, even if there are only a few of us present. I think it would be well to have Mr. Finney go over it briefly now.

Mr. FINNEY. I will be very brief anyhow, Mr. Chairman.

The contention of many engineers to whose testimony I have listened before the committee seems to be that the bill should be amended in the line of making the tenure of the lessees more secure and eliminating as far as possible executive supervision. I think there is perhaps no objection to making the tenure certain and sure; but of course we all agree that there should be such supervision as may be necessary to protect the interest of the public and prevent monopoly.

One suggestion made was that the Secretary of the Interior should be mandatorily compelled to lease upon application. That has been discussed by others, and I will not go into it.

Another suggestion was that each lease must be for 50 years.

Now, it strikes me that there should be some discretion left with the Secretary, for the reason that in some instances it may be extremely undesirable to grant a lease for the full 50 years. There may be cases where the applicant for lease will not desire a lease of that tenure. And we should not force him to take one if he does not want to. It may be a small project, or it may be a power project designed to furnish power to some enterprise which will exhaust itself in 20 or 30 years. There is no reason why we should compel them to take it for 50 years.

Mr. RAKER. Well, he could quit after it exhausts, could he not?

Mr. FINNEY. Possibly they might; but if Mr. Pierce's amendment was followed, the lease would have to be for 50 years.

Mr. KENT. And be in cold storage the rest of the time?

Mr. FINNEY. Yes. I think there will be very little difficulty if the maximum is retained at 50 years. The tendency of the executive officers will be to give those enterprises which seek it and need it the maximum term.

The suggested elimination of the latter part of section 2 of the bill is, to my mind, extremely objectionable, and that deficiency will not be cured by a proviso requiring the construction to be begun within a specified period.

It is extremely important, I think, that there should be some supervision over the grant of power which may be sold to a single consumer. It is very important in those States where power is in demand for pumping for irrigation. It is even more important in other States, because, without some restriction, the producer of the energy might transmit it down to some city where he could get a higher price than he could get in the community around his plant, and he might leave that surrounding community entirely without electricity, which they want and need.

Mr. RAKER. Mr. Finney, right there I asked this question a couple of times: Is that a fact that under the law public-service corporations can select their customers, or must they supply to any and all in proportion to the amount that they have—to the extent of their capacity to supply?

Mr. FINNEY. My understanding has been that the rule is the same with respect to public-service corporations furnishing power as it would be with respect to a public corporation furnishing water for irrigation or domestic purposes - that is, as long as that corporation has a supply available it must sell to the citizen who applies, without discrimination, but certainly you can not compel an irrigation company, for instance, which has 20,000 acre-feet of water and which has sold every drop of that water, to irrigators who are putting it to beneficial use and who need it on their land—you can not compel that corporation to take part of that water away from those water users and give it to some one else who wants to put water on his dry land, if I understand the law correctly.

Mr. THOMSON. To somebody who has later come in?

Mr. FINNEY. To somebody who has later come in, yes. And I think the same would be true of the electric power company; if it had

power on hand unsold or if it were possible for it to generate additional energy it would be incumbent upon it, and doubtless the public-service commission would compel it, to supply power to applicants. But suppose it has sold every horsepower that it generates, that that is being used, and the local community comes in with a demand for power?

Mr. RAKER. Then, according to that, the newcomer has but very little chance. Is that your view of the matter?

Mr. FINNEY. That is my understanding, yes.

Mr. RAKER. And would that be the same way with electric energy? There are large institutions, large homes having 25 or 30 rooms, with 3,000 lamps in them, and new buildings are put up by modest departmental officials; and the power of the power company is used by all these large places. Now, according to that view the man who owns the modest home could not go and get five lights for his place if these larger houses were using it all.

Mr. FINNEY. That is my understanding. The power has all been sold and is in beneficial use.

Mr. KENT. Do you not know of plenty of water companies that are short of water that refuse to take on new customers? I do. In my county the water companies refuse to take on new customers.

Mr. FINNEY. Yes; I am more familiar with the irrigation companies than I am with the power companies in that respect.

The suggestion that section 4 be amended by striking out the provision that no sale be made to a distributing company without the consent of the secretary, strikes at a very important feature of the bill, and it seems to me that it would open the door for transactions which might be highly objectionable.

The provision in section 5 with respect to the taking over I have already touched upon—as to the constitutionality of the proposed provision for taking over their property.

The question of whether that should be the actual value, or fair value, has been discussed here so fully that I do not think I need go into that. It seems to be self-evident that the right to take over at the end of the 50-year period, should conditions warrant and require such actions, is so important that it should not be defeated by putting it into the power of one of these corporations, through its unearned increment or the increases in values to so act as to really defeat that reserved right on the part of the Government.

Mr. KENT. Well, does not that act like an optional purchase—a contract for an optional purchase? Is not that about what it means?

Mr. FINNEY. That is my view. It is contractual, and the party who takes the lease goes into it with this as a part of the consideration. He knows exactly what he is doing, and exactly what the terms and conditions are.

Mr. KENT. So that the question of the constitutionality of the provision hardly comes in?

Mr. FINNEY. I think there is no question that it is entirely legal and constitutional.

Mr. RAKER. Mr. Chairman, I have one other question. I wish Mr. Finney would look this point up and present his views to the committee:

I am assuming now that a new power plant has been inaugurated, with 100 horsepower. The company goes to 10 private parties and

makes arrangements to sell them each 10 horsepower per annum. Can it be, that if I or Mr. Johnson, the eleventh man, should come in and want 10 horsepower, that they can deny us the right to get it by saying, "We have disposed of 100 horsepower to these 10 men, one with a grist mill and one with a mine and one with an irrigating pump, and so on," and in that way leave out Mr. Johnson or me entirely?

Mr. FINNEY. Do you mean that he comes in after the sale has been made?

Mr. RAKER. Yes.

Mr. FINNEY. And after that power has been put to use?

Mr. RAKER. No; I did not say that. He comes just before they are ready to start; but the company has entered into a contract with these 10 men.

Mr. KENT. The contracts are closed for the power?

Mr. RAKER. Yes; the contracts are closed.

Mr. KENT. There can not be any question——

Mr. RAKER (interposing). Wait a moment. I am asking Mr. Finney to look up this point, and I think there will be abundant authorities which he can present to the committee.

Mr. FINNEY. Yes; you asked me to look it up. You did not ask for an offhand opinion.

Mr. RAKER. I understand that your opinion is that, if 10 contracts be entered into, and no power yet furnished at all, and the eleventh man comes in, he could not get any power?

Mr. FINNEY. Yes; I think so.

Mr. KENT. Well, may I modify that question a little?

Mr. RAKER. Well, I want it to go in that way, because the courts of our State have held those contracts to be absolutely void because they are public-service corporations, and they could not in advance enter into contracts by which they would give Tom, Dick, and Harry all they wanted, and leave out another man.

Mr. KENT. Well, I would like to have this suggestion go in with the one you have suggested, that in the event that such power is actually used by those 10 people, that is one question. If any portion of that power is not used by those 10 people, then the question comes in, can somebody else come in and take the power that is not being utilized?

Mr. FINNEY. That is just like the case of water. Of course, if the public-service corporation had sold 20,000 acre-feet of water, and only 15,000 acre-feet are put to beneficial use, I have no doubt in the world that the public-service commission could then compel this corporation——

Mr. RAKER (interposing). No; the point I want to get at is to make this plain to you on the water-power proposition: Here is a public-service corporation furnishing water. It selects 10 men to furnish water to, and enters into a contract with them. Here are two or three other men who want water. Now, can it do that under a public-service commission?

Mr. THOMSON. Assuming that all of these 10 people want to use and are going to use their power?

Mr. FINNEY. Assuming that the applications are presented at the asme time for the whole 10?

Mr. RAKER. Yes.

Mr. FINNEY. No; it could not do that.

Mr. RAKER. It has to divide it between the 10.

The CHAIRMAN. You are departing from your original question.

Mr. FINNEY. Yes; I think you are.

Mr. THOMSON. Yes; in the first place, there had been 10 contracts made and concluded, and then the others came on.

Mr. RAKER. Then, I would put it this way, that, on the water proposition there are 100 inches of water, and the company enters into 10 contracts, giving each man 10 inches, and a contract is concluded and signed, and the full consideration paid for a year.

The CHAIRMAN. Is that the total capacity of the plant? You might put that in.

Mr. RAKER. Yes; that is the total capacity of the plant.

The CHAIRMAN. And all for beneficial use?

Mr. RAKER. Now, at the same time that these contracts are being made, here are Mr. Johnson and myself applying for 5 inches of water apiece. I am asking now whether this public-service corporation can deny Mr. Johnson and myself the right to the use of that water?

Mr. FINNEY. Not on that statement, no; because all the contracts are under consideration at the time the later applications were being considered. But, on the other hand, if those contracts were closed and the water was put to beneficial use, or time remained within which to put it to beneficial use, and then you came in with your application, they could say no, they could not take the water away from the first parties and give it to you, or any part of it.

Mr. RAKER. Well, the authorities will determine that question; we will not discuss it further here.

The CHAIRMAN. I think, when you come to look it up, you gentlemen will find that your differences are differences of fact, and not of law. [Laughter.]

Mr. FINNEY. It seems to me that the principal features of the bill, the important and vital features of the bill, are, first, that we shall secure to people who want to develop power a definite and fixed tenure which they have not now, and which I know from my experience in the department has impeded power development. We have a number of power applications annually for the use of public lands under the present law; but they are mostly small propositions, and we are told, time and time again, by engineers and by people who have money to invest, that they are afraid to go in under revocable permit. This bill removes that objection.

The second feature is that it reserves to the United States an opportunity to adopt a new policy in the future, 50 years from now. It does not commit us to take the plants over; it does not say that we will not take them over. But it leaves the matter open, so that in the light of experience Congress in the future may do what seems wisest at that time.

Third, the regulation and control of service, and of charges for service, to consumers, by the Secretary of the Interior or by the public service commission of the State where the development or use occurs, depending upon the conditions defined in the bill.

The question of revenue I do not regard as of very much importance.

The CHAIRMAN. We are very much obliged to you, Mr. Finney; and we are obliged to the other departmental officers, and to the gentlemen who have appeared before us.

Mr. RAKER. Does this conclude the hearings, Mr. Chairman?

The CHAIRMAN. I am perfectly willing to have that order made at this point.

Mr. CLARY. Mr. Chairman, I called Mr. Finney's attention to the last section, repealing laws, with reference to national parks, and I will ask that he make a memorandum so that when the proposition comes up before the committee in executive session, it will not escape his attention—because if the matter is not taken up then, it would involve getting the bill back from the House after it has been reported by the committee. Mr. Finney and I thoroughly agree on the proposition.

Mr. FINNEY. I will say that I have prepared an amendment to section 14, which I will hand to the committee in executive session.

(Thereupon, at 5 o'clock p. m., the committee adjourned.)

APPENDIX.

EXHIBIT A.

MEMORANDUM IN SUPPORT OF RESOLUTION OF WESTERN GOVERNORS AT DENVER CONFERENCE APRIL 9, 1914, RE CONSERVATION AND WATER POWERS.

At their conference at Denver on April 9, 1914, the governors of the States of Utah, Nevada, Colorado, Washington, Oregon, Idaho, Wyoming, New Mexico, and North Dakota adopted the following resolution:

"Whereas Congress has declared the water of all lakes, rivers, and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and use of the public for irrigation, mining, and manufacturing purposes. We insist the Federal Government has no authority to exercise control over the water of a State through ownership of public lands:

"*Resolved*, We maintain the waters of a State belong to the people of the State, and that the State should be left free to develop water-power possibilities and receive fully the revenues and other benefits derived from said developments.

"RESOLUTION ON CONSERVATION.

"We believe in conservation—in sane conservation. We believe the all-wise Creator placed the vast resources of this Nation here for the use and benefit of all the people, past, present, and future; and while we believe due consideration and protection should be given to the rights of those who come hereafter, we insist that the people of this day and age should be given every reasonable opportunity to develop our resources and put them to beneficial use."

There are pending before Congress two bills authorizing the development of water powers in the streams of the arid West—S. 4415, by Senator Jones of Washington, and H. R. 14893, by Mr. Ferris. Passing any general discussion of the merits of either of these bills in matters of detail, they present fundamentally antithetical divergence between State control of waters on the one hand and Federal control on the other, upon which the western governors so emphatically expressed themselves in the conference resolution above quoted, which may be concretely expressed in the question, Do the waters of the several States, or more correctly, does the right to use those waters belong to the States or to the Federal Government?

This antithesis is expressed in the divergent provision of the two bills as to the compensatory tax to be imposed upon water-power developments. The Jones bill (sec. 2) provides for compensation to the Federal Government by a rental based upon the appraised value of the public lands required for the development. The Ferris bill (sec. 8) provides for rental based upon the power developed by the lessee at the site regardless of the area of public lands occupied by him. In other words, the former asserts ownership of and exacts compensation for land taken, the latter of and for water independent of the land required for its use.

It is nowhere claimed that there is in the Federal Government any right to control the use of water within the States (except in aid of commerce and navigation and purposes incident to other governmental functions) except such as is given by the ownership of public lands.

This statement would seem to answer the question above stated, and to render the compensatory clause of the Ferris bill indefensible in principle. But it is claimed by the Federalists that the rights of the Government as a riparian owner of much of the land upon which hydroelectric developments must be made give it the riparian owner's right to the water or its use, and confer upon it a right to exact compensation for such use. In those few

Western States in which a modified system of riparian rights is in force there would be merit in the contention were it not for the facts, first, that a riparian owner's usufructuary right to water is simply an incident of his riparian ownership of land—it may be severed by grant, reservation, or condemnation, or lost by prescription created by adverse user, but fundamentally and inherently it is appurtenant to his land, and if the land is rendered more valuable by its riparian character, it is compensated for in the increased cost of the land; second, the asserted right is not confined to riparian land, but is extended to nonriparian land which it for any reason becomes necessary to cross in the construction of development works—for example, a flume or pipe line may extend from a riparian lot in private ownership over nonriparian public land, and thence to a power house on private riparian land where it is returned to the stream; under the Ferris bill the Government may exact exactly the same tax or rental upon the same horsepower basis as though it were the owner of all the land, riparian or nonriparian, required for the development; third, the right is asserted as a sovereign, governmental right yielding a compensation to enable the Government to maintain a governmental bureau discharging governmental functions, and not a private proprietary right, constituting a thing of value and to be compensated for as such, upon its disposal, as other property is compensated for.

But in the great majority of Western States, where the doctrine of riparian rights has been rejected in toto, there is no basis either in sovereignty or riparian proprietorship for the assertion by the Federal Government of a right to the waters of streams, or their use, or to regulate their use by others, or to exact compensation for such use, but all of such claimed rights belong to the several States and their peoples, and are the subjects of property, distinct from any rights to land, riparian or otherwise, which may be used or required to make such water rights available. Furthermore, in no State can the Federal Government claim any rights to water except as incident to land ownership, and then only on the same terms and conditions as other owners of land in the State.

These propositions are elementary and part of the common knowledge of every citizen of the West, but seem to be so generally misunderstood by our eastern friends that this memorandum in support of the position so emphatically taken by the western governors is offered, citing, for brevity and conciseness, only the few leading and incontestable authorities on the proposition involved:

I. The Federal Government has, by reason of its ownership of public lands, no municipal right of sovereignty in the several States, but the rights of the public-land States over such lands, and the waters over the same, are in all respects equal to those of the original States over territory within their borders, save that they can not tax them or interfere with the primary disposal of the soil by the Federal Government.

This principle is established, and incidentally the whole argument here made, in the leading case of Pollard's Lessee *v.* Haggen (3 How., 212, 15 U. S., 391). where, among other things, the court said:

"We think a proper examination of this subject will show that the United States never held any municipal sovereignty, jurisdiction, or right of soil in and to the territory of which Alabama or any of the new States were formed, except for temporary purposes, and to execute the trusts created by the acts of the Virginia and Georgia Legislatures, and the deeds of cession executed by them to the United States, and the trust created by the treaty with the French Republic of the 30th of April, 1803, ceding Louisiana.

* * * * * * *

"And if an express stipulation had been inserted in the agreement granting the municipal right or sovereignty and eminent domain to the United States such stipulation would have been void and inoperative, because the United States have no constitutional capacity to exercise municipal jurisdiction, sovereignty, or eminent domain within the limits of a State, or elsewhere, except in the cases in which it is expressly granted.

* * * * * * *

"The right of Alabama and every other new State to exercise all the powers of government which belong to and may be exercised by the original States of the Union must be admitted and remain unquestioned, except so far as they are temporarily deprived of control over the public lands.

* * * * * * *

"We, therefore, think the United States hold the public lands within the new States by force of the deeds of cession, and the statutes connected with them, and not by any municipal sovereignty which it may be supposed they possess or have reserved by compact with the new States for that particular purpose. The provision of the Constitution above referred to shows that no such power can be exercised by the United States within a State. Such a power is not only repugnant to the Constitution, but it is inconsistent with the spirit and intention of the deeds of cession.

* * * * * * *

"By the preceding course of reasoning we have arrived at these general conclusions: First, the shores of navigable waters, and the soils under them, were not granted by the Constitution to the United States but were reserved to the States respectively. Second, the new States have the same rights, sovereignty, and jurisdiction over this subject as the original States. Third, the right of the United States to the public lands, and the power of Congress to make all needful rules and regulations for the sale and disposition thereof, conferred no power to grant to the plaintiffs the land incontroversy in this case."

The principle announced in this case has been affirmed and the case followed in cases in the Supreme Court of the United States and in the several States too numerous to mention. Among the more important cases of those most nearly in point here are: Withers *v.* Buckley (20 How., 84); Shively *v.* Bowlby (152 U. S., 1); Fort Leavenworth R. Co. *v.* Lowe (114 U. S., 525); Kansas *v.* Colorado (206 U. S., 46); Hudson Water Co. *v.* McCarter (209 U. S., 349).

In the Fort Leavenworth case it is said—

"The United States, therefore, retained, after the admission of the State, only the rights of an ordinary proprietor, except as an instrument for the execution of the powers of the General Government, that part of the tract which was actually used for a fort or military post was beyond such control of the State by taxation or otherwise as would defeat its use for those purposes. So far as the land constituting the reservation was not used for military purposes the possession of the United States was only that of an individual proprietor. The State could have exercised, with reference to it, the same authority and jurisdiction which she could have exercised over similar property held by private parties."

In Kansas *v.* Colorado (supra), which is now perhaps the leading case on this proposition as applied to the arid States, the following statement is made:

"As to those lands within the limits of the States, at least of the western States, the National Government is the most considerable owner and has power to dispose of and make all needful rules and regulations respecting its propriety. We do not mean that its legislation can override State laws in respect to the general subject of reclamation. While arid lands are to be found mainly, if not only, in the western and newer States, yet the powers of the National Government within the limits of those States are the same—no greater and no less—than those within the limits of the original 13, and it would be strange if, in the absence of a definite grant of power, the National Government could enter the territory of the States along the Atlantic and legislates in respect to improving by irrigation or otherwise the lands within their borders. Nor do we understand that hitherto Congress has acted in disregard to this limitation."

And in the Hudson Water case, the court, through Mr. Justice Holmes, says:

"It appears to us that few public interests are more obviously indisputable and independent of particular theory than the interest of the public of a State to maintain the rivers that are wholly within it substantially undiminished except by such drafts upon them as the guardian of the public welfare may permit for the purpose of turning them to more perfect use."

And it is held that no agreement of riparian owners can sanction the diversion of an important stream outside the boundaries of the State. In this discussion the court expressly excludes irrigation problems.

II. The right of sovereignty over lands and waters being in the several States, each may determine for itself the law governing the right to the use of its waters and the manner of acquiring and conditions of continuing such use.

Whatever may have been the rule during the early formative period of irrigation and water-power law, the Supreme Court of the United States has consistently held since the decision of Kansas *v.* Colorado, cited above, that the nature and extent of water rights within the several States is a question of local law in which the statutes and decisions of those States govern.

In the Kansas *v.* Colorado case it said—

"Each State has full jurisdiction over the lands within its borders, including the beds of streams and other waters."

And—

"It may determine for itself whether the common-law rule in respect to riparian rights or that doctrine which obtains in the arid regions of the West what appropriation of waters for the purposes of irrigation shall control. Congress can not enforce either rule upon any State."

This rule is substantially announced in the Hudson Water case, above cited, and in Boquillas Cattle Co. case (213 U. S., 339); an appropriation in Arizona is expressly sustained as against a claim of vested riparian rights claimed under a territorial statute making the common law of England, so far as not repugnant to the territorial laws adopted—the court, through Mr. Justice Holmes, merely saying trenchantly: "But we agree with the territorial court that, considered with the rest of the code, it is far from meaning that the patentees of a ranch on the San Pedro are to have the same rights as the owners of an estate on the Thames." The proprietor's right are sustained under the Arizona appropriation code.

The question is expressly decided again in Los Angeles Milling Co. *v.* Los Angeles (217 U. S., 217), where it is held that the decision of the California court as to the effect of rights of the Pueblo of Los Angeles to water, basing its decision on previous decisions of the court of California, presented no Federal question which the Supreme Court could review, citing, among other cases, Los Angeles *v.* Hooker (188 U. S., 314), where Chief Justice Fuller said:

"Obviously, the question as to the title or right of plaintiffs in error to the land and whatever appertained thereto was one of State law, on which the decision of the State court was final."

In Shodde *v.* Twin Falls Water Co. (224 U. S., 107) the Idaho law of appropriation is sustained against a claim of vested riparian rights, and the question is treated by the Supreme Court solely as one of local law under which the decisions of the State court are binding.

III. In the great majority of Western States water is declared the property of the State or of the public and the right to its use the subject of appropriation independent of land ownership; title to riparian land gives no title to water nor right to its use.

In the arid States the above statement is known as the Colorado doctrine, being first promulgated in the case of Coffin *v.* Lefthand Ditch Co. (6 Colo., 443). In this case the court, after reviewing the doctrines of prior appropriation and of riparian rights, said:

"We conclude, then, that the common-law doctrine giving the riparian owner a right to the flow of water in its natural channel upon and over his land, even though he makes no beneficial use thereof, is inapplicable to Colorado. The imperative necessity, unknown to the countries which gave it birth, compels the recognition of another doctrine in conflict therewith. And we hold that, in the absence of express statutes to the contrary, the first appropriator of water from a natural stream for a beneficial purpose has, with the qualifications contained in the Constitution, a prior right thereto to the extent of such appropriation."

This view of the law has been adopted, in addition to Colorado, in Wyoming, New Mexico, Arizona, Utah, Idaho, and Nevada, and as hereinbefore noted, is acquiesced in by the Supreme Court of the United States. The leading decisions in the various States are: Willey *v.* Decker (11 Wyo., 496), Clough *v.* Wayne (2 Ariz., 371), Stowell *v.* Johnson (7 Utah, 215), Drake *v.* Earhart (2 Idaho, 750), Reno Smelting Works *v.* Stevenson (20 Nev., 269).

There is not space to review these decisions in detail, but they all proceed upon the theory expounded in the Colorado case—that the law of riparian rights was not adapted to the situation existing in the arid States, and consequently never was a part of their law; that their law originated independently of the common-law doctrines out of the customs of miners and as a product of necessity, which, if not recognized, would have left those States a waste. Unlike the States which followed the California doctrine, next to be mentioned, they do not hold that rights to the use of water depend in any sense upon either acquiescence by or grant from the Federal Government as the owner of riparian lands, but that those rights are sui generis and of independent local origin, and as such are impressed upon the lands of the United States as well as upon lands which have passed into private ownership.

IV. In the balance of the Western States while riparian rights are recognized such recognition is of rights of land proprietorship and not of sovereignty, and it has not been extended to public lands because of any paramount governmental ownership as such, but because of the proprietary interest of the Government, which, as proprietor, is regarded simply as the source of title.

This doctrine, known as the California doctrine, prevails in the States of California, Washington, and Montana. Under it the ownership of riparian land is regarded as carrying with it, as at common law, the right to the use of water, but the Government as the owner of such land is held to have granted its rights to water by the now famous act of July 26, 1866, which, among other things, provides:

"SEC. 9. *And be it further enacted*, That whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owner of such vested rights shall be maintained and protected in the same."

This act was early held to be not only a recognition of rights previously acquired, but also as a grant by the Federal Government to future users of water, and it has been generally held under it when applied to this doctrine, that so long as land was in public ownership of the United States, water rights could be acquired by appropriation, because of the grant of the right so to do by the act of Congress, but as soon as they passed into a private ownership, riparian rights, unless previously divested, attached.

The leading case in support of this doctrine is Lux *v.* Haggin (69 Cal., 255). The decision is a very long one. It is there held that the Government has the absolute title to its lands, and that consequently unless preserved running waters appurtenant thereto pass by grant or patent of the United States (p. 340). But it is further said:

"Upon the admission of California into the Union, this State became vested with all the rights of sovereignty and jurisdiction in and over navigable water and the soils under them which were possessed by the original States after the adoption of the Constitution of the United States. Since the admission of California into the Union the public lands of the United States (except such as have been reserved or purchased for forts, navy yards, public buildings, etc.) are held as are the lands of private persons, except that they can not be taxed by the State nor can the primary disposition of them be interfered with" (p. 335).

Similarly the Federal court for California, in Woodruff *v.* North Bloomfield (18 Fed. Cas., 772, 9 Sewyer, 441), held that after the admission of California "the only interest of the United States in the public lands was that of a proprietor, like that of any other proprietor, except that a State, under the express terms upon which it was admitted, could pass no laws to interfere with their primary disposal, and they were not subject to taxation."

The doctrine of Lux *v.* Haggin (supra) has been adopted in Washington in Kendel *v.* Joyce (48 Wash., 489), and in Montana in Cottonwood *v.* Thom (39 Mont., 115).

It is clear that in these States, while a title to waters running through and over the public lands is recognized in the Federal Government, this title is merely one of proprietary ownership and not a right of sovereignty; that it does not give the Federal Government the right to regulate as a sovereign the development and use of its waters, but it, as the owner of riparian land, is looked to simply as the source of title to the waters as well as to the lands, which it is held by the act of 1866 it has parted with and dedicated to the people of the States.

A theory somewhat different from either of the others prevails in Oregon and should be briefly mentioned. Until 1909 it was generally accepted that a modified system of riparian rights prevailed in Oregon, but in that year in the exhaustive and learned decision in Hough *v.* Porter (51 Oreg., 382), (rehearing opinion) it is held that that provision of the desert-land act of March 3, 1877, that "all surplus water over and above such actual appropriation and use, together with the waters of all lakes, rivers, and other sources of water supply upon the public lands, and not navigable, shall remain and be held free for the appropriation and use of the public for irrigation, mining, and manufacturing purposes, subject to existing rights," constitutes a dedication to the public by the riparian owner, the Federal Government, of all rights to waters otherwise appurtenant to the public lands. This decision was said by Mr. Justice Holmes in Boquillas Cattle Co. *v.* Curtis (supra) to stand "on plausible grounds."

Thus it appears that of the distinctively arid States, seven deny absolutely any right in the Federal Government to their waters, three refer to the Federal Government as a source of title by virtue of its riparian ownership and the grant contained in the act of 1866, and one holds that the Federal Government, while originally the source of title, has irrevocably dedicated its waters to the public; and the Supreme Court of the United States has left the question to the States themselves as one of local law.

It should be noted before closing that all the right-of-way statutes grant rights of way over public lands. None of them since the act of 1866 have purported to grant, thus impliedly claiming title to, any right to use waters flowing over the lands, and the administration of the right-of-way acts has to this day related solely to land titles and permits and not to water rights. There has thus never been any claim by Congress of any right to waters.

CONCLUSION.

What has gone before is an abstract discussion of a purely legal question. As said at the outset, there is no purpose to consider in detail the proposed legislation or to differentiate the two measures before Congress. With a few changes in matter of detail there would not be a great practical difference between them. Either would go a long ways to further and encourage the development of water powers for all the people with adequate safeguards of their rights and protection against the exploitation of water powers for the benefit of private individuals.

But the States can not surrender the principle involved in the declaration of their governors. To do so would be to acknowledge their inequality with the original States in opposition to the equality guaranteed by the Constitution and by the acts of their admission; it would be to surrender without consideration one of their greatest resources; it would be to admit the right of the Federal Government to tax their resources and their people for the benefit of the whole Nation, when the people of other States are not likewise taxed; it would mean to admit the principle of Federal regulation of a matter of purely local concern; it would be a confession of inability to solve for themselves their own problems.

For the Federal Government to secure compensation either in the way of purchase price or annual rental for their lands, with all the value which such lands have, whether by reason of acknowledged riparian rights, strategic position, or otherwise, the people of the West will agree to. They will be just and even generous in this regard. But to surrender a vital principle of their sovereignty, to submit to a tax based on might and not on right, they will never agree.

EXHIBIT B.

Light *v.* United States (220 U. S. Rep., 536).

* * * But "the Nation is an owner and has made Congress the principal agent to dispose of its property." * * * "Congress is the body to which is given the power to determine the conditions upon which the public lands shall be disposed of." (Butte City Water Co. *v.* Baker, 196 U. S., 126.)

"The Government has with respect to its own land the rights of an ordinary proprietor to maintain its possession and prosecute trespassers. It may deal with such lands precisely as an ordinary individual may deal with his farming property. It may sell or withhold them from sale." (Camfield *v.* United States, 167 U. S., 524.)

And if it may withhold from sale and settlement it may also as an owner object to its property being used for grazing purposes, for "the Government is charged with the duty and clothed with the power to protect the public domain from trespass and unlawful appropriation." (United States *v.* Beebee, 127 U. S., 342.)

The United States can prohibit absolutely or fix the terms on which its property may be used. As it can withhold or reserve the land it can do so indefinitely. (Stearns *v.* Minnesota, 179 U. S., 243.)

It is true that the "United States do not and can not hold property as a monarch may for private or personal purposes." (Van Brocklin *v.* Tennessee, 117 U. S., 158.)

But that does not lead to the conclusion that it is without the rights incident to ownership, for the Constitution declares, section 3, Article IV, that "Congress shall have the power to dispose of and make all needful rules and regulations respecting the territory or the property belonging to the United States." "The full scope of this paragraph has never been definitely settled. Primarily, at least, it is a grant of power to the United States of control over its property." (Kansas *v.* Colorado, 206 U. S., 89.)

"All the public lands of the Nation are held in trust for the people of the whole country." (United States *v.* Trinidad Coal Co., 137 U. S., 160.) And

it is not for the courts to say how that trust shall be administered. That is for Congress to determine. The courts can not compel it to set aside the lands for settlement; or to suffer them to be used for agricultural or grazing purposes; nor interfere when, in the exercise of its discretion, Congress establishes a forest reserve for what it decides to be national and public purposes. In the same way and in the exercise of the same trust it may disestablish a reserve, and devote the property to some other national and public purpose. These are rights incident to proprietorship, to say nothing of the power of the United States as a sovereign over the property belonging to it. * * *

EXHIBIT C.

List of cases in which decisions of March 2, 1909, revoked permits issued by the Secretary of the Interior under act of February 15, 1901.

Colliver Zombro, Angeles. Power location and canal, October 23, 1899.
Mentone Power Co., Angeles. Power house and conduit, November 24, 1903.
E. A. and W. L. Sperry, Arapaho. Virginia reservoir and pipe line. August 17, 1908.
Telluride Power Co., Cache. Reservoir and flume, December 3, 1903.
C. M. Clarkin, Crooh and Tonto. Power project, February 9, 1909.
Industrial Investment Corporation, Holy Cross.
Grand River Power & Transmission Co., Holy Cross. Pipe line, August 17, 1908.
Central Colorado Power Co., Holy Cross. De Remer Canal, pipe line and power station, August 17, 1908.
Glenwood Light & Power Co., Holy Cross. Tunnel and pipe line, August 17, 1908.
Nevada California Power Co., Inyo. Equalizing reservoir and pipe.
Park Henshaw, Lassen. Dam and conduit, July 10, 1906.
Cottonwood Light & Power Co., Leadville. Pipe line, August 17, 1908.
Smith & Sanborn, Medicine Bow. Bierstadt Lake reservoir, inlet ditches and pipe line, August 17, 1908.
Pikes Peak Hydro-Electric Co., Pike. Pipe line, August 17, 1908.
Kern River Co., Santa Barbara. Transmission line, June 29, 1904.
A. G. Wishon, Sequoia. Power station and conduits, January 19, 1905.
A. G. Wison, Sequoia. Conduit, August 17, 1908.
Mount Whitney Power Co., Sequoia. Reservoir, conduit and road, August 17, 1908.
John S. Eastwood, Sierra. Permanent power plant, October 8, 1906.
A. G. Wishon, Sierra. Reservoirs, conduit and power.
George A. Knight, Sierra. Flumes and tunnels, May 3, 1902.
Mammoth Power Co., Sierra. Reservoir, conduit and power plant.
Stanislaus Electric Power Co., Stanislaus. Reservoirs and conduit, February, 1909.
Gustav Wilke, Uncompahgre. Planet pipe line and reservoir, August 17, 1908.
Oregon Electric Power Co., Wallowa. Power development No. 1, August 17, 1908.

EXHIBIT D.

WATER-POWER DEVELOPMENT:[1] A BRIEF PREPARED BY THE PUBLIC POLICY COMMITTEE AND ADVISORY MEMBERS OF THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, AND PRESENTED AT THE PUBLIC HEARING BEFORE THE U. S. NATIONAL WATERWAYS COMMISSION, WASHINGTON, D. C., NOVEMBER 21, 1911.

[Public Policy Committee: Henry G. Stott, chairman; H. W. Buck, John J. Carty, Gano Dunn, ex-officio, John H. Finney, Charles W. Stone, Calvert Townley, James G. White. Advisory Members: Edward D. Adams, Philip P. Barton, Louis Bell, Dugald C. Jackson, William S. Lee, Lewis B. Stillwell, Percy H. Thomas.]

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS,
33 WEST THIRTY-NINTH STREET,
New York, November 17, 1911.

To the honorable the United States National Waterways Commission:

SIRS: Under the instructions of the board of directors of the American Institute of Electrical Engineers, its public policy committee, with which have been

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[1] Reprinted from the December, 1911, proceedings.

associated advisory members who are experts on the development and electrical transmission of water powers, has the honor to respond to your invitation to attend the public hearing set for November 21, at Washington, and to put at the disposal of the commission its services as experts in any electrical engineering or closely allied questions the commission may refer to it.

The function of the American Institute of Electrical Engineers is scientific and professional, and is not commercial; consequently, its committee refrains from expressing itself on the commercial, industrial, legal or political aspects of the water-power situation, except when these are incidental to the effect of that situation upon the practice of electrical engineering which it is the society's object to promote. It appreciates also that the commission is probably desirous not of the views of particular individuals, which might represent only individual opinions, but would pe glad to have before it such opinions as are shared by a group of experts and may therefore be regarded as representative and out of the field of controversy. It has therefore prepared a statement of such opinions on a number of electrical engineering and closely allied questions related to the development of water powers.

In anticipation of the raising of some or all of these questions by members of the commission, it respectfully submits this statement embodying its joint opinions for the commission's consideration. It would call attention to the fact that prominent electrical engineers have for a number of years been contributing to the Transactions of the American Institute of Electrical Engineers papers bearing on all phases of the water-power question, and that the subject is one of vital interest to the American Institute of Electrical Engineers because the whole character of water-power development has been changed from that of a local enterprise to that of a great public service utility by means which electrical engineers have provided, and the utility and depelopment of water power depends almost entirely upon the fact that it may be transformed into electric power.

RELATION OF WATER POWER TO NAVIGATION.

That the utilization of rivers and smaller streams for navigation and for the development of power are naturally inter-related is obvious. As regards by far the greater part of our undeveloped water powers on the public domain, the ultimate value as sources of power of those streams is vastly greater than any possible value which could be realized by attempts to utilize them as channels for navigation, but in the case of many of our larger rivers the possibilities of development for purposes of navigation predominate as compared with power development. The committee recognizes the fact that in all cases where practical possibilities of both navigation and power development exist the two objects in view are cooperative and not antagonistic—the construction of the dams and locks necessary to secure navigability affording a natural and generally effective means of developing the power of the streams.

WATER POWER A PUBLIC UTILITY.

Modern water-power developments usually are not local private enterprises, as is generally supposed. The developments in recent years in the electrical transmission of power have made possible the distribution of electric power from a single water-power plant over territories embracing in some cases over 40,000 square miles in area, supplying electric power for diversified purposes to hundreds of thousands of people. Such distribution of water power is an advantage to the consumers, and any policy tending to retard or handicap the development of water powers is a disadvantage to the people in the surrounding territory and retards its industrial development.

The regulation of public utilities by public service commissions has become practically an accepted principle in the United States, and there is no reason why safeguard from unfair charges for water power should not be found by this means, especially where the wide area covered by electrical distribution makes the public nature of a water power obvious.

DISTRIBUTION OF INVESTMENT IN HYDROELECTRIC SYSTEMS.

The investment of capital in hydroelectric systems is not confined to the dam and power house. In general, not over 50 per cent of the investment is represented in the generating plant, the balance representing the cost of the trans-

mission lines radiating from the plant, the substations at the ends of the transmission lines for the conversion and distribution of the transmitted power, and the secondary distribution lines delivering power from the substations to the premises of the various consumers. The distribution system outside of the power plant, while not apparent to the casual observer of a power house and dam, represents in many hydroelectric developments the greater part of the total investment.

CLOSE COMPETITION BETWEEN WATER POWER AND STEAM POWER.

The belief among certain classes of the public that water powers yield excessive or disproportionate profits springs primarily from two causes—the conception that the water itself is the power and that the expenses of operation of a water power are small while the company's income is large.

While, certainly, the power could not be developed without the water, the water on its part can deliver no power except by means of the dam, the power house, and its appurtenances. It is difficult for the public to regard these once built as involving continuing expense, but they do. This expense is comparable in amount with the cost of coal in a steam station, and is the return due to the capital invested. It takes the form of interest, sinking-fund expenditures, depreciation, and taxes. The invested capital in a water power is so much greater than the public realizes, that with interest charges at not more than 5 or 6 per cent, in a majority of cases, from 70 to 80 per cent of a water-power company's income is absorbed.

This return to capital is not profit. Without the prospect of it, capital can not be secured.

Of a water power once built and after its expected market has been developed, the operating expenses, exclusive of the returns to capital, are seen by the public to be small, which they are, in a majority of cases, absorbing only from 15 to 20 per cent of a company's income. The remainder, however, that is left for profit after capital and operating charges are paid is usually not large and certainly not excessive, especially when there is always risk of damage from floods, lightning, failure of expected market to develop, and such uncertainties of operation as the art of electrical engineering has not yet been able completely to remove.

Practically all water powers come to birth or not on the answer to the question, "What is steam power in the territory costing?" and they can only live when they deliver power at a substantially lower cost. At the same cost, they remain unborn.

Besides the cost of power, the relative amount of investment is a determining factor. While at present a steam electric plant can be built for $75 per horsepower, the cost of a hydroelectric plant varies from two to four times that amount. Part of this difference is because the steam plant can be built near the center of its market, while the water power is almost invariably at a distance.

With the capital required for a water power so much greater, the tendency is to build a steam plant, even if the power it delivers is not as cheap as that of a water power. If it can be shown that water power can be delivered for, say, $25 per horsepower per year, but that steam power can be produced for, say, $27, the water-power plant will not be built and the steam-power will. If, however, the water power could be delivered for $24, the difference might turn the tide in favor of the hydroelectric investment.

It is because of the great effect of slight differences in the cost of water power upon the determination of the question, "Shall water or steam power be developed in a given community?" that even light burdens in the form of taxation, charges for sinking fund to wipe out the investment at the end of a limited period, or limitations as to tenure even though not immediately onerous, loom so large in settling it.

Attention is often called to the increasing cost of coal with an implication that the cost of steam power will rise, permitting hydroelectric companies to raise their rates and exact undue profits. The implication is not correct. It is true that the cost of coal is rising, but it is also true that steam engines and boilers are constantly being improved in efficiency, and that the art of producing power from steam is progressing at a rate so much more rapid than that at which the price of coal is rising that the cost of steam power is continually falling. Should a limit to this fall be reached, which is not yet in

sight, gas and oil engines are making such constant reductions in the cost of power that there is no probability that water powers will be free from the controlling competition of other kinds of prime movers. It is safe to say that extortionate rates in water power are highly improbable even if the principle of rate regulation by commission were not applicable to hydroelectric companies.

CONSTRUCTION RISK IN HYDROELECTRIC DEVELOPMENT.

While hydroelectric engineering is tending toward more standard methods of construction, each individual development will present new problems in engineering with the inevitable construction risk connected therewith. During construction the works are constantly subject to serious damage by abnormal floods, and unexpected difficulties and physical conditions may arise whereby the cost of construction may be very materially increased beyond original expectations. Furthermore, after the power plant itself is satisfactorily completed, the success of the enterprise is commonly dependent upon the industrial development of a large territory surrounding the power plant upon which it relies for its market for power. Such industrial growth can only be predicted on general principles, and may be subject to unexpected retardation due to industrial depression or other unforeseen causes. Again, unexpected competition may develop from new and improved steam and other engines, all of which limit or defer the profits of the enterprise. On account of these engineering and operating risks and uncertainties capital which is invested in hydroelectric enterprises is entitled to reward commensurate with the risk.

REVOCABLE OR LIMITED-TERM PERMIT.

The revocable permit for the construction of a hydroelectric system does not attract capital because of the obvious uncertainties involved. In case of revocation, not only would the power plant and dam be forfeited, but all of the transmission lines, substations, and distribution system dependent thereon for their operation jeopardized. Not only is it difficult to induce capital to invest in such a development based upon a revocable permit, but it is very difficult to close the long-term power contracts with consumers which are necessary to make a hydroelectric system financially successful. Consumers are unwilling to make their future business requiring power dependent upon a permit which might cause at any time the complete disorganization of the system supplying their power.

A limited-term franchise also includes financial and engineering difficulties which seriously impede the normal development of a progressive hydroelectric system. Such systems are laid out from their inception for ultimate growth, and in this respect are comparable to large railway systems. The transmission lines are constantly reaching out into new territory in order to meet new demands and with the development of the art it is necessary to make investments in extensions in order to maintain satisfactory service and to meet the demands of power consumers.

With a limited definite term beyond which renewal of rights are uncertain, no company would be willing to continue indefinitely the extension and improvement of a system so necessary and desirable from the standpoint of public service. The necessity of writing off not only the original cost of the plant, but the continual annual investment in additions thereto within the limited term of the permit requires an annual sinking fund that adds materially to the cost of the water power. This is a hardship not only upon the power company, but upon the consumer.

Before the end of such limited permit development of the system would cease, maintenance expenses would be cut to a minimum, and the plant would deteriorate to a point where the service to the public would become unsatisfactory.

INTERCONNECTION OF CONTIGUOUS HYDROELECTRIC SYSTEMS.

It has been suggested that with the growth in extent of large hydroelectric distributing systems ultimate interconnection and combinations between them might establish a monopoly and permit the raising of prices for power.

Such interconnection between contiguous hydroelectric systems offers decided and important engineering advantages. It improves the constancy of electrical pressure and enables the system to draw power from two or more independent power plants.

The rainfall occurring at different times on two or more separate watersheds are thus made to benefit all of the consumers on the combined systems.

Such interconnection also permits reduction in operating expenses and assures better service by reducing to a minimum the probability of total interruptions at any time from line troubles or otherwise.

The investment and consequently the cost of power can be reduced by combination, because less capacity in generating machinery to serve as spare plant for emergencies need be installed, and operating expenses can be reduced by rendering repairs easier, owing to greater facilities for shutting down for work or for inspection. Any tendency toward raising the price of power as an accompaniment of such combination is restrained automatically by competition with steam power and can be regulated by Government commission.

EXTENT OF WATER-POWER DEVELOPMENT.

The statistics of water power collected under the direction of Congress several years ago and embodied in the report of the National Conservation Commission of 1909, show that there is at present developed in the United States about 5,000,000 horsepower of water power.

The amount of power produced by steam from coal is difficult to estimate, but is considered to be about 27,000,000 horsepower, and is rapidly increasing with attendant depletion of coal reserves. A large part of this it is not only possible but easy for water power to replace if it were made freely available through development. Within range of development at a cost of investment that would make the cost of such power about equal to that of steam power, there is still undeveloped in the streams of the United States about 35,000,000 horsepower.

Any action by Congress that would accelerate the release of this power would conserve enormous supplies of coal for such domestic and industrial purposes as only coal can supply.

CONCLUSION.

We regard it beyond our province to urge upon the commission specific measures or to discuss, other than incidentally, phases of the water-power question not involving electrical engineering. What we have given are, in our opinion, engineering and economic facts on which the commission may rely.

HENRY G. SCOTT, *Chairman.*

EXHIBIT E.

Commercial water power controlled by or under the influence of companies or groups of interests each having 50,000 horsepower or more actually developed or under construction, 1911.

[From tabulations made by Bureau of Corporations, 1911.]

Companies or groups of interests.	Developed and under construction.	Undeveloped.	Total.
General Electric interests [1]	939,115	[2] 641,600	1,580,715
Stone & Webster interests	278,067	372,350	650,417
Hydraulic Power Co. of Niagara Falls	144,000	20,000	164,000
Pacific Gas & Electric Co	118,343	100,000	218,343
Clark-Foote-Hodenpyl-Walbridge interests	104,300	158,000	262,300
Southern Power Co	101,680	104,000	205,680
Brady interests	70,600	16,200	86,800
S. Morgan Smith interests	76,550	96,000	172,550
United Missouri Power Co	65,000	.....	65,000
Telluride Power Co	[3] 56,350	21,300	77,650
Total	[4] 1,821,305	[4] 1,449,450	[4] 3,270,755

[1] Includes 84,700 horsepower also included with Stone & Webster interests and 48,000 horsepower with Clark-Foote-Hodenpyl-Walbridge interests.

[2] Includes 5,000 horsepower also included with Stone & Webster interests and 75,000 horsepower included with Clark-Foote-Hodenpyl-Walbridge interests.

[3] Includes 4,500 horsepower belonging to the Beaver River Power Co.

[4] Does not include power duplicated in General Electric, Stone & Webster, and Clark-Foote-Hodenpyl-Walbridge interests.

Commercial water power controlled by or under the influence of the large power interests or groups, 1913.

[From tabulations made by National Conservation Association, 1913.]

Groups of interests or companies.	Developed.	Undeveloped.	Total.
General Electric interests	1,164,097	1,719,800	2,883,897
Stone & Webster interests	319,200	499,000	818,200
Westinghouse-Brady interests	271,220	512,200	783,420
Byllesby interests	127,892	226,500	354,392
Clark-Hodenpyl-Walbridge interests	93,370	125,000	218,370
Hydraulic Power Co.	174,000	.....	174,000
Niagara Power Co. of Niagara Falls	118,300	.....	118,300
Pacific Gas & Electric Co.	184,327	160,000	344,327
Southern Power Co.	113,480	165,000	278,480
Doherty interests	145,000	149,000	294,000
Total	2,710,886	3,556,500	6,267,386

EXHIBIT F.

[Excerpt from Report of the Commissioner of Corporations on Water-Power Development in the United States, March 14, 1912, Chapter II, "Relation of water power to the public," pp. 209–211.]

THE POWER SITE THE EFFECTIVE POINT FOR APPLYING A PUBLIC POLICY TO WATER POWER ITSELF.

The protection of the consumer of power from excessive or unfair power prices is one question. Quite another and distinct problem is the consideration of obtaining for the public as a whole its proper share in the advantage inherent in water powers. From what has been said it should be clear that the public can not hope to secure its share in the benefits of such public resources by establishing a lower price for water power than for fuel power.

In so far as power can be produced at a water-power site and delivered at consuming markets at a lower cost than fuel power, there is an advantage in favor of the water power which is the basis for the value of the water-power site. It is being more and more recognized that the public ought to assure to itself, so far as possible, its proper share in the values which, with the development of industry, attach to a water-power privilege.

The important fact which the bureau desires to emphasize is that the only effective point at which this right of the public can be exercised is the natural resource itself—the power site. In so far as the public is still the owner of power sites, it is apparent that an effective water-power policy can be established by which the public can either itself develop such powers or control their development by private parties in such manner as to retain for the public its share of the benefits derived from the natural resources. If the power is developed by the public and sold at the price of fuel power, the Public Treasury will receive the difference between the delivered cost of the two kinds of power. If, on the other hand, the public permits private parties to develop and operate its water powers, it can charge a rental for the right which will also go into the Public Treasury. It is only through some such reservation and through the operation of the one agency that represents the public, namely, the Government, whether State or Federal, that the advantages inherent in public water powers can be reserved for and distributed to the community as a whole. This consideration must, therefore, primarily dominate a public water-power policy.

In this connection it is competent to point out that the value of a water-power site, considered by itself, is usually augmented because of the conditions under which the water-power industry is ordinarily conducted. Thus, the "coupling up" of several water-power sites under a unified control and the accompanying relationships with power markets similarly subject to more or less concentration of control, already referred to, give to a group of water-power sites collectively a combined value considerably in excess of the aggregate of their values if operated independently. Consequently, the concentration presents a further important factor in the determination of a public policy, with regard to water power. It increases the value of those natural advantages inherent in the power site, to which site public policy must give its main attention, and consequently should be taken into consideration in determining the

compensation to which the public is properly entitled in allowing its water powers, or those in which it has an interest, to be developed by private parties.

The exact terms under which power privileges should be utilized can be determined only after careful examination of the subject in the light of what is alike fair to the public at large and to those investing in water-power development. Without attempting to indorse any particular policy with respect to the water powers on the public domain, it is proper to point out that a system of leasing presents decided advantage. This is particularly true because of the ease with which the public interest can be safeguarded by such a system. As the value of sites changes rental charges can be adjusted from time to time to conform to changed conditions. No fixed terms for such leases could be suggested as suitable without considering other conditions of the contract and the nature of the enterprise itself. In any given case the conditions of the lease, as well as the natural advantages of the water-power site and the business and profits expected, would naturally be reflected in the amount of the rental which those who undertook the enterprise would be willing to pay. Where the cost of developing and distributing water power may be about equal to the cost of producing and distributing fuel power, it would probably be a wise policy to lease sites without charge until such time as conditions would warrant compensation to the Government. Otherwise such water powers could not be developed at present. For water powers owned by the public, the leasing system thus furnishes not only the means of obtaining the full present value of the site, but also, under suitable arrangement of the terms of the lease, the means of receiving from time to time increased compensation for increases in the value of such natural resources. It has the final advantage of retaining in the public the ultimate control of the resource. Under exceptional circumstances the outright sale of power privileges might be the only method that would induce development. The parting of title to water powers by the Government and the consequent relinquishment of the strongest element of control should not be resorted to, however, until it is certain that the public interest is thereby best conserved. The safeguarding of the more distant future is especially desirable, because water power, broadly speaking, is a resource of inexhaustible character and because of the incompleteness of our knowledge as to future conditions and possibilities in the hydroelectric industry.

With respect to water powers which are now held in private ownership, regulation and control can be supplied only through taxation of the values of sites, or the exercise of eminent domain (with, of course, due compensation to the private owners for the present market value of their interest therein). The regulation of prices charged by such private water-power concern, however, is a matter still within the control of the public, but to be effective it must be a part of a system of regulating power prices generally, as explained in the preceding section.

Whatever method of control over water-power resources may be deemed most equitable and expedient, it is imperative that a definite policy by both the Federal Government and the States be promptly adopted, in view of the strongest present tendencies toward acquisition and concentration in private hands, as described at length in this report.

EXHIBIT G.

[Form 59. Revised to March 1, 1913.]

UNITED STATES DEPARTMENT OF AGRICULTURE.

FOREST SERVICE.

Name of forest, ------, water power. Name of applicant, ------ ------.
Use applied for, ------.

Date of priority of application, ------ ------.

Preliminary power permit.

This preliminary power permit, issued this ---- day of ------, 19--, to the ------ Company, hereinafter called "the permittee," a corporation organized and existing under and by virtue of the laws of the State of ------, and

having its office and principal place of business at _____, in the State of _____, witnesseth: That

Whereas the permittee filed with the district forester at _____, on the ____ day of _____, 19__, an application for a preliminary power permit, in accordance with the regulations of the Secretary of Agriculture, hereinafter called "the Secretary;"

And whereas the permittee, on the ____ day of _____, 19__, paid to the _____ National Bank of _____ (United States depository), to be placed to the credit of the United States, the sum of _____ dollars ($_____):

Now, therefore, the conditions of this permit are as follows:

ARTICLE 1. If the permittee shall, on or before the ____ day of_____, 19__, file with the district forester at _____, in the manner prescribed by the regulations of the Secretary, a complete and final application for a permit to occupy and use lands of the United States within the _____ national forest, as shown upon a certain map executed by _____ _____ on the ____ day of _____, 19__, and made a part of the aforesaid preliminary application, for (1) _____ reservoirs to be located approximately as shown upon the aforesaid map; (2) _____ water conduits to be located between points of diversion and discharge as approximately shown upon the aforesaid map; (3) _____ power-house sites to be located approximately as shown on the aforesaid map; and (4) _____ transmission lines to be located approximately as shown on the aforesaid map; then and thereupon said final application shall, with reference to priority of application, relate back and be effective as of the date of the aforesaid preliminary application; but final permit will not be issued unless the development proposed in the final application is in general accord with the most beneficial utilization of the resources involved and consistent with the public interest.

ART. 2. If the permittee shall include in said final application national forest lands which comprehend developments not included within its preliminary application, the priority of its application for such additional lands shall date only from the date of the filing of said final application.

ART. 3. The permittee shall pay annually in advance from the 1st day of January, 19__, until the date of the granting of the aforesaid final permit, to the _____ National Bank of _____ (United States depository), or such other Government depository or officer as may hereafter be legally designated, to be placed to the credit of the United States, a charge for the priority rights granted under this permit, which charge shall be calculated from the "rental capacity of the power site," as defined in the regulations of the Secretary and as estimated at the time of granting this permit, at a rate which shall be ten (10) cents per horsepower per year for the first full calendar year under this permit, and which shall increase by ten (10) cents per horsepower per year for each year thereafter until the date of the granting of final permit as aforesaid.

ART. 4. If any part of the aforesaid charge, payable as provided in article 2 hereof, shall, after due notice has been given, be in arrears for sixty (60) days, then and thereupon this permit shall terminate and become void.

ART. 5. If upon the filing of the said final application a final permit is granted by the Secretary to the permittee to occupy and use the aforesaid lands for the construction, maintenance, and, or, operation of the aforesaid works, and in accordance with the provisions of such final power permit, the permittee completes the construction and begins the operation of the aforesaid works, all payments made in consideration of this permit will be credited to the permittee and be applied to the payment of charges due, or to become due after such beginning of operation, under such final power permit: *Provided, however,* That if such final application provides for only a partial development of the power project or projects, as outlined in the aforesaid preliminary application and as protected by this permit, then only such proportional art of the aforesaid payments will be credited to the permittee as the amount of development provided for in said final application bears to the amount of development indicated in said preliminary application; if, however, after the filing of final application in the form and manner prescribed in the regulations of the Secretary the Secretary does not grant a final power permit to the permittee, all payments made in consideration of this permit will be returned to the permittee.

ART. 6. This permit shall terminate and become void upon the date named in article 1 hereof unless extended by the written consent of the Secretary, and such extension will not be granted unless the completion of the final application has been prevented by unusual climatic conditions that could not reasonably have been foreseen, or by some special or peculiar cause beyond the control

of the permittee; and if at the date of the termination of this permit as named in article 1 hereof, or at the date of the termination of any extension of time as herein provided, the permittee has failed to present a complete and final application in the manner and in the form prescribed in article 1 hereof, then and thereupon the aforesaid priority shall be lost, and no other application, either preliminary or final, covering in whole or in part the same or adjacent lands, will be accepted from the permittee for a period of one year subsequent to the date of the termination of this permit or to the date of the termination of any extension hereof.

ART. 7.[1] This permit shall give no right to begin construction of any kind or to cut or destroy any timber upon national forest lands.

ART. 7.[1] The permittee is hereby authorized to begin the construction of the following works: _____

ART. 8.[1] This permit is subject to a _____ power permit granted to _____ _____ on the ____ day of _____, 19__, and having a priority date of _____, 19__, also to _____ _____.

ART. 9. This permit is nontransferable.

In witness whereof I have hereunto set my name this ____ day of _____, 19__.

——— ———, *Secretary of Agriculture.*

[Form 61. Revised Dec. 20, 1013.]

UNITED STATES DEPARTMENT OF AGRICULTURE.

FOREST SERVICE.

Name of forest: _____, water power. Name of applicant: _____ _____. Use applied for: _____.

Date of priority of application: _____.

Power stipulation.

The _____ Co. having on the ____ day of _____, 19__, filed with the district forester at _____ an application, in accordance with the regulations of the Secretary of Agriculture, for a permit to occupy and use certain lands of the United States within the _____ National forest in the State of _____, and more particularly described in and shown by the maps and plans accompanying said application and made a part thereof, upon which to construct, maintain, and operate certain project works described in said application for the purpose of storing, conducting, and, or using water for developing power, and for the purpose of transmitting said power, does hereby, in consideration of and as a prerequisite to the approval of the said application and the granting of the permit applied for, stipulate and agree as follows, to-wit:

DEFINITION OF TERMS.

ART. 1. That the following terms wherever used in this stipulation shall have the meanings hereby in this article assigned to them, viz:

"Permittee" means the _____ Co., a corporation organized and existing under and by virtue of the laws of the State of _____ and having its office and principal place of business at _____, in the State of _____.

"Secretary" means the Secretary of Agriculture of the United States of America, or his successor, or his duly authorized representative, or such other officer or agent of the United States as may be legally designated.

"National forest lands" means public lands of the United States reserved under the terms of the act of March 3, 1891 (26 Stat., 1095), as amended by the act of June 4, 1897 (30 Stat., 11).

"Permit," as used in this stipulation, means the final power permit applied for by the permittee upon the ____ day of _____, 19__, in accordance with the regulations of the Secretary under the act of February 15, 1901 (31 Stat., 790), and in consideration of which this stipulation is filed with the district forester.

"Municipal purposes" means and includes all purposes within municipal powers as defined by the charter of the municipal corporation, where any such purpose is directly pursued by the municipal corporation itself with the pri-

[1] Cancel clauses not used.

mary object of promoting the security, health, good government, or general convenience of its inhabitants.

"Power business" means the entire business of the permittee in the generation, distribution, and delivery of power by means of any one power system, together with all works and tangible property involved therein, including freeholds and leaseholds in real property.

"Power system" means all interconnected plants and works for the generation, distribution, and delivery of power.

"Power project" means a complete unit of power development, consisting of a power house, conduit or conduits conducting water thereto, all storage or diverting or forebay reservoirs used in connection therewith, the transmission line delivering power therefrom, any other miscellaneous structures used in connection with said unit or any part thereof, and all lands the occupancy and use of which are necessary or appropriate in the development of power in said unit.

"Project works" means the physical structures of a power project.

"Construction of the project works" means the actual construction of dams water conduits, power houses, transmission lines, or some permanent structure necessary to the operation of the complete power project, and does not include surveys or the building of roads and trails, or the clearing of reservoir sites or other lands to be occupied, or the performance of any work preliminary to the actual construction of the permanent project works.

"Operation period" means the period covered by final permit subsequent to the actual beginning of operation.

"Survey-construction period" means the period covered by preliminary and final permits prior to the operation period.

"Nominal stream floow" means the sum of (*a*) the flow determined by averaging the values estimated for the natural mean flow for the two-month (calendar) minimum flow period in each successive five-year period or major fracton thereof, and (*b*) the stream flow made available from storage not by the project works.

"Load factor" means the ratio of average power output to maximum power output.

"Total capacity of the power site" means the continued product of (1) the factor 0.08;[1] (2) the average effectire head, in feet; (3) the stream flow estimated to be available at the intake (in second-feet and in amount not to exceed the maximum hydraulic capacity of the project works) considered as the sum of (*a*) the nominal stream flow, and (*b*) stream flow made available from storage by project works; and (4) a factor, not less than the average load factor of the power system, representing the degree of practicable utilization of the stream flow estimated to be available, and based on the extent of practicable forebay storage and the load factor of the power system.

"Rental capacity of the power site" means the capacity on which the rental charges are based. Unless otherwise ordered by the Secretary, it will be determined by making the following deductions from the total capacity of the power site:

(*a*) Whenever power projects include conduit sites not wholly on national forest lands, a deduction will be made from that part of the total capacity of the power site which is due to the use of the nominal stream flow. This deduction will be, in per cent, the sum of (1) the product of the proportion of the average effective head obtained from the dam by the per cent of submerged lands below the flow line fixed by the average effective head that are not national forest lands, and (2) the product of the proportion of the average effective head obtained from the water conduit (from intake to tailrace outlet) by the per cent of the length of said conduit which is not located on national forest lands.

(*b*) Whenever power projects include reservoir sites not wholly on national forest lands, a deduction will be made from that part of the total capacity of the power site which is due to the use of stream flow made available from storage by the project works. This deduction will be the per cent of the total area of the reservoir sites that is not national forest land.

(*c*) From the total capacity of the power site which remains after deductions (*a*) and (*b*) have been made will be made a further deduction, which, in per cent, will be the product of the square of the distance of primary trans-

[1] The factor 0.08 represents the horsepower at 70 per cent efficiency of a second-foot of water falling through a head of 1 foot.

mission in miles and the factor 0.001; but in no case will deduction (c) exceed 25 per cent.

AMENDMENT OF MAPS AND PLANS.

ART. 2. To construct its works on the locations shown upon the maps and in accordance with the plans specifically described in its final application for permit, filed with the district forester at _____, on the ____ day if _____, 19__, which said maps and plans are hereby made a part of this stipulation, and to take no material deviation from said locations or from said plans unless and until maps or plans showing such deviation shall have been filed with the district forester and approved by the Secretary; and no deviaton or amendment will be allowed which will interfere with the occupancy and use of national forest lands under existing permits, or conflict with prior rights under pending applications.

ART. 3. To file, within six (6) months after the completion of each part of the project works, as required in article 5 hereof, in the manner prescribed for original maps of location, maps showing the final location of each part of the project works as constructed, if such final location varies from that shown upon maps originally filed or upon approved amendments thereof; and to file also within six (6) months of the completion of each part of the project works as aforesaid, in such manner as may be prescribed by the Secretary, detailed working plans of each part of the project works as constructed, except of such parts as have been constructed in compliance with the plans originally filed or approved amendments thereof.

BEGINNING AND COMPLETION OF CONSTRUCTION AND BEGINNING OF OPERATION.

ART. 4.[1] To begin the construction of the aforesaid project works on or before _____ and thereafter diligently and continuously to prosecute such construction, unless such construction is temporarily interrupted by climatic conditions or by some special or peculiar cause beyond the control of the permittee.

ART. 4.[1] To begin the construction of the following several parts of the aforesaid project works on or before the several dates in this article specified, and thereafter diligently and continuously to prosecute such construction, unless such construction is temporarily interrupted by climatic conditions or by some special or peculiar cause beyond the control of the permittee.

(1) On or before _____, Part I, consisting of _____.

ART. 5.[1] To complete the construction and begin the operation of the aforesaid project works on or before _____.

ART. 5.[1] To complete the construction and begin the operation of the following several parts of the aforesaid project works on or before the several dates in this article specified.

(1) On or before _____, Part I, consisting of _____.

ART. 6. That it is understood, if upon any one of the dates specified in article 4 hereof, unless the time is extended by the written approval of the Secretary, after a showing by the permittee satisfactory to the Secretary that such beginning of construction of that part of the project works required to have been begun on the specified date has been prevented by the act of God, or by the public enemy, or by engineering difficulties that could not reasonably have been foreseen, or by other special and peculiar cause beyond the control of the permittee, that thereupon the permission to occupy and use national forest lands for all parts of said project works the construction of which has not been begun on said date shall terminate and become void; and that the permit, in so far as such parts of said project works are concerned, shall become of no effect.

ART. 7. That it is understood that the dates specified in article 5 hereof for the completion of construction and the beginning of operation of the several parts of the project works will be extended only upon the written approval of the Secretary, after a showing by the permittee satisfactory to the Secretary that the completion of construction and beginning of operation has been prevented by the act of God, or by the public enemy, or by engineering difficulties that could not reasonably have been foreseen, or by other special and peculiar

[1] Use the first form of articles 4 and 5 when but one complete power project is to be constructed and it is inadvisable to separate it into two or more units of construction. When several distinct power projects are involved, or where it may be desirable to divide a single power project into two or more units of construction, use the second form or articles 4 and 5. Cancel form not used.

cause beyond the control of the permittee; and if such extension be not approved, that thereupon the permission to occupy and use national forest lands for such parts of said project works shall terminate and become void; and that the permit, in so far only as such parts of said project works are concerned, shall become of no effect.

ART. 8. That, except when prevented by the act of God, or by the public enemy, or by unavoidable accidents or contingencies, the permittee will, after the beginning of operation, continuously operate for the development of power the project works constructed, maintained, and, or, operated, in whole or in part, under the permit, unless upon a full and satisfactory showing of the reasons therefor this requirement shall be temporarily waived by the written consent of the Secretary.

CAPACITIES OF POWER SITES.

ART. 9. That the total capacity of the power site, permission for the occupancy and use of which in whole or in part, has been applied for, shall, for the purposes of this stipulation, be deemed and taken to be ------ horsepower, distributed as follows: ------ and that the part of the aforesaid total capacity which is due to the use of the nominal stream flow shall, for the purposes of this stipulation, be deemed and taken to be ------ horsepower, distributed as follows: ------ and that the part of the aforesaid total capacity which is due to the use of stream flow made available from storage by the project works shall, for the purposes of this stipulation, be deemed and taken to be ------ horsepower, distributed as follows: ------ it being understood, that if any approved alterations or amendments of the maps of location or plans of project works, as provided for in article 2 and article 3 hereof, or any permanent change in the nominal stream flow, due to storage or otherwise, shall result in an increase or decrease in the total capacity of the power site, or of either part thereof, or of both, as said capacities are hereinbefore taken, said increased or decreased power capacities shall, from the beginning of the calendar year next succeeding the date of such approval, or of such change in nominal stream flow, be deemed and taken to be, for the purposes of this stipulation, the capacities of the power site occupied and used, in whole or in part, under the permit; and, it being further understood, that if at any time not less than ten (10) years after the original or after the last preceding determination of the said total capacity of the power site, or of either part thereof, or of both, either the permittee or the Secretary, on the ground of the inaccuracy, insufficiency, or inapplicability of the data upon which said original or said last preceding determination of said capacities was made, shall apply for or give notice of review of said original or said last preceding determination, then and thereupon such review shall be taken by the Secretary and a redetermination of the capacities shall be made, and the said redetermined capacities shall, for the purposes of this stipulation, and from the beginning of the next calendar year, be deemed and taken to be the capacities of the power site occupied and used in whole or in part under the permit.

RENTAL CHARGES.

ART. 10. To pay annually in advance from the first day of January, 191--, to the ------ National Bank of ------ (United States depository), or such other Government depository or officer as may be hereafter legally designated, to be placed to the credit of the United States, a rental charge for the occupancy and use of the lands of the United States described and shown upon the maps hereinbefore referred to, which rental charge shall be calculated from the "rental capacity of the power site," as defined in article 1 hereof, at the following rates per horsepower per year:

For the unexpired portion of the calendar year and for the first full calendar year of the survey-construction period, and similarly for the operation period	$0.10
For the second full calendar year of each of said periods	.20
For the third year	.30
For the fourth year	.40
For the fifth year	.50
For the sixth year	.60
For the seventh year	.70
For the eighth year	.80
For the ninth year	.90
For the tenth and each succeeding year	1.00

it being understood that said estimated rental capacity may be adjusted annually by the Secretary to provide for changes in ownership of lands in reservoir sites and on water conduit lines and for changes in length of primary transmission; and, it being further understood, that at any time not less than ten (10) years after the issuance of the permit, or after the last revision of rates of rental charge thereunder, the Secretary may review such rental rates and impose such new rental rates as he may decide to be reasonable and proper: *Provided*, That such rental rates shall not be so increased as to reduce the margin of income (including appreciation in land values) from the power project or projects under the permit over proper actual and estimated expenses (including reasonable allowance for renewals and sinking-fund charges) to an amount which, in view of all the circumstances (including fair development expenses and workng capital) and risks of the enterprise (including obsolescence, inadequacy, and supersession), is unreasonably small; but the burden of proving such unreasonableness shall rest upon the permittee.

ART. 11. That it is understood, if the permittee completes the construction and begins the operation of each of the several parts of the aforesaid project works, within the periods provided for in article 5 hereof or any approved extension thereof, that then and thereupon all charges for the occupancy and use of national forest lands for said part of said project works so completed and operated which have been paid prior to the date of such completion and operation will be credited to the permittee and will be applied to the payment of charges due at the date of such completion and operation or to become due thereafter.

ART. 12. That it is understood, if any part of the power developed by the project works under the permit is used by the permittee itself for irrigation as auxiliary to irrigation works owned and operated by the permittee, or for the temporary development of power to be used in the construction of permanent project works under permit to the permittee, that such a proportional part of the full schedule charge for any calendar year will be credited to the permittee as the power developed by the project works and used for the purposes above named bears to the total output of the project works for said year; and that all amounts so credited will be applied to the cancellation of charges as they may thereafter become due.

ART. 13. That it is understood, if any part of the aforesaid rental charge, payable as hereinbefore provided, shall, after due notice has been given, be in arrears for six (6) months, that then and thereupon the permit and the authority granted thereunder to occupy and use national forest lands shall terminate and be void.

ART. 14. That the decision of the Secretary shall be final as to all matters of fact upon which the calculation of the capacities or charges depends.

RECORDS AND ACCOUNTS.

ART. 15. Upon demand of the Secretary to install at such places and maintain in good operating condition in such manner as shall be approved by the Secretary, free of all expense to the United States, accurate meters, measuring weir, gauges, and, or, other devices approved by the Secretary and adequate for the determination of the amount of power developed by the project works and of the flow of the streams from the water is to be diverted for the operation of said works, and of the amount of water used in the operation of said works, and of the amounts of water held in and drawn from storage; to keep accurate and sufficient records of the foregoing to the satisfaction of the Secretary; and to make a return during January of each year, under oath, of such records of measurements for the year ended on December 31 preceding, made by or in the possession of the permittee, as may be required by the Secretary.

ART. 16. That the books and records of the permittee in so far as they contain information concerning the power project or projects under the permit or the power business conduction in connection therewith shall be open at all times to the inspection and examination of the Secretary.

ART. 17. Upon demand of the Secretary to maintain in such form as the Secretary may prescribe or approve a system of accounting of the entire power business transacted in connection with the power project or projects under the permit and to render annually such reports of said power business as the Secretary may direct: *Provided, however*, That if the laws of the State in which the said power business or any part thereof is transacted require periodical reports from public utility corporations under a uniform system of

accounting, copies of such reports so made will be accepted as fulfilling the requirements of this article.

MISCELLANEOUS REQUIREMENTS.

ART. 18. To protect all Government and other telephone, telegraph, and power transmission lines at crossings of and at all places of proximity to the permittee's transmission lines in a workmanlike manner according to the usual standards of safety for construction, operation, and maintenance in such cases; and to maintain the transmission lines in such manner as not to menace life or property.

ART. 19. To clear and keep clear all lands of the power project for such width and in such manner as the Secretary may direct.

ART. 20. To dispose of all brush, refuse, or unused timber on national forest lands resulting from the construction and maintenance of the project works as may be required by the Secretary.

ART. 21. To build and repair roads and trails as required by the Secretary whenever any existing roads or trails are destroyed or injured by the construction work or flooding under the permit, and to build and maintain necessary and suitable crossings, as required by the Secretary, for all roads and trails which intersect the water conduit, if any, constructed, maintained, and operated under the permit.

ART. 22. To do everything reasonably within its power and to require of its employees, contractors, and employees of contractors to do all reasonably within their power, both independently and upon the request of the forest officers, to prevent and suppress forest fires upon and near the lands to be occupied under the permit.

ART. 23. To pay in advance, as required by the Secretary, to the United States depository or officer as above set forth in article 10 hereof, to be placed to the credit of the United States the full value as fixed by the Secretary of all timber cut, injured, or destroyed on national forest lands in the construction, maintenance, or operation of the project works.

ART. 24. To pay on demand of the Secretary to the United States depository or officer as above set forth in article 10 hereof to be placed to the credit of the United States full value for all damage to the lands or other property of the United States resulting from the breaking of or the overflowing, leaking, or seeping of water from the project works constructed, maintained, and, or, operated under the permit, and for all other damage to the lands or other property of the United States caused by the neglect of the permittee or that of its employees, contractors, or employees of contractors.

ART. 25. To indemnify the United States against any liability for damages to life or property arising from the occupancy or use of national forest lands by the permittee.

ART. 26. To sell power to the United States when requested at as low a rate as is given to any other purchaser for a like use at the same time and under similar conditions if the permittee can furnish the same to the United States without diminishing the quantity of power sold before such request to any other customer by a binding contract of sale: *Provided*, That nothing in this article shall be construed to require the permittee to increase its permanent works or to install additional generating machinery.

ART. 27. To abide by such reasonable regulation of the service rendered and to be rendered by the permittee to consumers of power furnished or transmitted by the permittee, and of rates of payment therefor, as may from time to time be prescribed by the State or any duly constituted agency of the State in which the service is rendered.

ART. 28. That upon demand therefor, in writing, from the Secretary the permittee will surrender the permit to the United States or transfer the same to such State or municipal corporation as the Secretary may designate, and on the conditions specified in this article, and will also give, grant, bargain, sell, and transfer with the permit (upon such demand and upon said conditions) all works, equipment, structures, and property then owned or held and then valuable or serviceable in the generation, transmission, or distribution of electrical or other power, and which are then dependent in whole or in part for their usefulness upon the continuance of the permit, together with all interest in any leaseholds of operating property used in connection with the works under the permit, and all contracts for the sale and delivery of electrical

or other power; that the Secretary may require such surrender, if the United States shall desire to take over the permit and properties or, whenever a substantial part of such property is situated elsewhere than on national forest lands, he may designate as such transferee any State or municipal corporation which shall desire such transfer: *Provided, however*, That no municipal corporation shall be so designated unless by condemnation it shall have acquired, or unless by proceedings in a court of competent jurisdiction it shall have been determined that such municipality has the right to acquire, such property situated elsewhere than on national forest lands: *And provided further*, That no such municipal corporation shall be so designated unless it also has the power to acquire the said property and rights of the permittee under the conditions named in this article; that such surrender or transfer shall be on condition precedent that the United States or such transferee shall first pay to the permittee the reasonable value of all said works, equipment, structures, and other tangible property, and in addition thereto a bonus of three-fourths of 1 per cent of such reasonable value for each full year of the unexpired term of the permit; that such reasonable value shall not include any sum for the permit, or for any other franchise or right granted by the United States, by any State, or by any municipal corporation in excess of the amount (exclusive of any tax or annual charge) actually paid to the United States, or to such State or municipal corporation, as the compensation for the granting of such franchise or right, or any sum for any other intangible properties or values whatsoever, it being understood that all such intangible values shall be covered by the bonus herein provided for; that such reasonable value shall be determined by mutual agreement between the parties in interest, and in case they can not agree by a board of arbitration of three members, one of whom shall be named by the permittee and one by the transferee, the third shall be either the Secretary or some representative whom he may name; and that the reasonable value for the purposes of such determination of such works, equipment, structures, and other tangible property shall be the cost of reproduction of such works, equipment, structure, and other tangible property under substantially the same conditions as existed at the time of the original construction and at prices for labor and material which shall be the average of such prices for the five years next preceding the date of valuation, less a percentage of such reproduction cost equal to the per cent of physical and functional depreciation of the existing work, equipment, structures, and other tangible property.

ART. 29. That in respect to the regulation by any competent public authority of the service to be rendered by the permittee or the price to be charged therefor, and in respect to any purchase or taking over of the properties or business of the permittee or any part thereof by the United States, or by any State within which the works are situated or business carried on in whole or in part, or by any municipal corporation in such State, no value whatsoever shall at any time be assigned to or claimed for the permit, or for the occupancy or use of national forest lands granted thereunder, nor shall the permit or such occupancy and use ever be estimated or considered as property upon which the permittee shall be entitled to earn or receive any return, income, price, or compensation whatsoever.

ART. 30. That the works constructed or to be constructed, maintained, and, or, operated under the permit will not be owned, leased, trusteed, possessed, or controlled by any device or in any manner so that they form part of, or in any way effect, any combination in the form of an unlawful trust, or form the subject of any unlawful contract or conspiracy to limit the output of electric energy, or are in restraint of trade with foreign nations or between two or more States or within any one State in the generation, transmission, distribution, or sale of electrical or other power.

In witness whereof the permittee has executed this stipulation on the ——— day of ———, 19—.

[SEAL.]

——— ———.

By ——— ———.

Attest:

——— ———, *Secretary*.

[Form 62—Revised Dec. 20, 1913.]

UNITED STATES DEPARTMENT OF AGRICULTURE,

FOREST SERVICE.

Name of forest; _____, water power. Name of applicant; _____. Use applied for; _____. Date of priority of application; _____.

Final power permit.

Whereas the _____ Co. (hereinafter called "the permittee") filed with the district forester at _____ on the ____ day of _____, 19__, in accordance with the regulations of the Secretary of Agriculture (hereinafter called "the Secretary") under the act of February 15, 1901, an application for permission to occupy and use, for development, transmission, and distribution of power, certain lands of the United States within the _____ National Forest, in the State of _____, and more particularly described and shown by the maps, field notes, plans, estimates, and data accompanying the said application; and

Whereas the aforesaid maps and plans, as hereinafter specifically described, have been adopted by the permittee as the maps of the approximate final location and as the approximate plans of the project works which the permittee proposes to construct under this permit; and

Whereas the permittee has paid to the _____ National Bank of _____ (United States depository), to be placed to the credit of the United States, the sum of _____ dollars ($ _____); and

Whereas the permittee on the _____ day of _____, 19__, executed, and on the ____ day of _____, 19__, filed with the district forester at _____, a stipulation required by the Secretary as a condition to the issuance of this permit:

Now, therefore, I, _____ Secretary of Agriculture of the United States, in accordance with the authority conferred upon me by the act of February 15, 1901, do authorize the permittee, subject to the regulations of the Secretary and to the provisions hereinafter set forth, to occupy and use the lands hereinbefore referred to, and to construct, maintain, and (or) operate thereon, for the purposes in article 1 below set forth, the following project works:

[Cancel such of the four following items (a), (b), (c), and (d) as may not be applicable.]

(a) _____ (masonry, earth, etc., diverting or storage) dams approximately _____ feet in maximum height and approximately _____ feet in maximum length, to form _____ reservoirs to flood approximately _____ acres at spillway level, respectively,[1] in section ____, township ____, range ____ meridian, of which total of _____ acres approximately _____ acres are national forest land, said dams and said reservoirs being designated, respectively, as follows: _____

(b) _____ water conduits approximately ____ __miles in length, respectively,[1] crossing sections _____, township _____, range _____ meridian, of which total _____ miles approximately _____ miles will cross national forest land, said water conduits being designated, respectively, as follows: _____

(c) ____ power houses and appurtenant structures to occupy approximately _____ acres, respectively,[1] in section _____, township _____, range _____ meridian, of which total of _____ acres approximately _____ acres are national forest land, said power houses being designated, respectively, as follows: _____

(d) _____ transmission lines _____ miles in length, respectively,[1] crossing sections _____, township _____, range _____ meridian, of which total of _____ miles approximately _____ miles will cross national forest land, said transmission lines being designated as follows: _____

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[1] If land is unsurveyed, substitute for the description by legal subdivisions in paragraphs (a), (b), (c), and (d) the following: "located on certain lands described and shown by the maps and field notes accompanying the application filed with the district forester on the ____ day of _____, 19__."

All approximately shown upon certain maps and plans executed by _____ _____ on the __ __day of _____, 19__, which maps and plans are filed together herewith and designated as follows: _____ (Designate each original map or plan as "Exhibit A," "Exhibit B," etc., following each such designation by the title of the map or plan, as "Exhibit A," map of location of, etc.; "Exhibit _____," plan of, etc.) which maps and plans, together with certain other data designated as "Exhibit _____," (designate each exhibit by letter and name, as "Exhibit M, Field notes," "Exhibit N, Estimates and data," etc.) are hereby made a part of this permit.

ART. 1. The project works to be constructed, maintained, and, or, operated under this permit shall be constructed, maintained, and, or, operated for the purpose of storing, conducting, and, or, using water for the development of power or for the purpose of the transmission and use of said power.

ART. 2. Unless sooner revoked by the Secretary, this permit shall terminate and become void on the ____ day of _____, 19__, but on said date may be deemed to be an application by the permittee for a new permit to occupy and use such national forest lands as are occupied and used under this permit: *Provided*, That the permittee shall, not less than two (2) or more than twelve (12) years prior to the said date, formally notify the Secretary that it desires such new permit, and shall comply with all laws and regulations at such time existing governing the occupancy and use of national forest lands for power purposes.

ART. 3. Any violation of or failure to comply with the provisions or conditions of any article of the aforesaid stipulation, whether or not such article provides that such violation or noncompliance shall result in the revocation of this permit, shall be deemed and taken to be a sufficient cause for such revocation; but it is understood that the statute under which this permit is issued provides "that any permission given by the Secretary of the Interior (Agriculture) under the provisions of this act may be revoked by him or by his successor in his discretion." No revocation, however, of this permit, either in whole or in part, will be made until after due notice thereof has been served upon the permittee and until after the permittee shall have been given a reasonable time, not to exceed ninety (90) days after the service of said notice, within which to show cause why such revocation should not be made.

ART. 4. This permit and the permission granted hereunder to occupy and use national forest lands may be transferred to a new permittee under the following conditions, and not otherwise: The proposed transferee shall file with the district forester of the district in which the lands to be occupied are situated the decree, execution of judgment, will, proposed contract of sale, or other written instrument upon which the proposed transfer is based, or a properly certified copy thereof, also an application by the proposed transferee in the form of a stipulation binding the proposed transferee to the performance of such new and additional conditions expressed therein as the Secretary may deem necessary; and thereupon the Secretary may, in his discretion, approve in writing the proposed transfer, and after such approval the transferee shall succeed to all the rights and obligations of the permittee, subject, however, to such new and additional conditions as shall have been embodied in such stipulation and so approved.

ART. 5. Any power project, permission to construct which is granted by this permit, or any part of such project, may be abandoned by the permittee upon the written approval of the Secretary after a finding by the Secretary that such abandonment will not tend to prevent the subsequent development or use of such power project or part thereof so abandoned, and after the fulfillment by the permittee of all obligations under the aforesaid stipulation, in respect to payment or otherwise, existing at the time of such approval.

ART. 6. Upon the voluntary abandonment of the occupancy and use of national forest lands, as authorized by this permit (except as provided for in article 4 hereof), or upon the revocation of this permit, or upon the nonexecution of a new permit at the termination of this permit, all permanent project works which have been constructed under the authority of this permit, such as reservoirs, dams, and operating mechanism, water conduits and operating mechanism, power houses, and other buildings, shall become and remain the property of the United States: *Provided, however*, That if said revocation or abandonment shall, as provided for in the aforesaid stipulation, affect only a part of the project works, the construction of which is authorized by this permit, the provisions of this article shall apply only to such parts of said project works as are affected by such revocation or abandonment. The mechanical equipment of power houses shall remain the property of the permittee, and may be

removed within a reasonable time, not to exceed six (6) months after such abandonment, revocation, or termination, unless other disposition of such equipment is approved by the Secretary.

ART. 7. This permit is subject to all prior valid claims and permits which are not subject to the occupancy and use hereby authorized.

IN WITNESS whereof I have hereunto set my hand this ____ day of _____, 19__.

------ ------, *Secretary of Agriculture.*

EXHIBIT H.

MILFORD, PIKE COUNTY, PA., *May 6, 1914.*

Hon. SCOTT FERRIS,

House of Representatives, Washington, D. C.

MY DEAR MR. FERRIS: As I came to think over my testimony before the Public Lands Committee the other day concerning the proposed transfer of control over water power in the national forests to the Interior Department, it seemed to me that my statement was less specific and compact than I should have been glad to make it, and that you would, perhaps, permit me to incorporate in my testimony the present letter.

The basis of the proposal in the Ferris water-power bill to transfer the charge of the Government water powers in the national forests to the Interior Department is, of course, the desire to promote simplicity, efficiency, and economy of administration. If to do so would, in fact, realize these objects, I should be heartily in favor of this provision in the Ferris bill. Unfortunately, however, it could not, as I strongly believe, have any such result, but would, on the contrary, lead to complication, reduce efficiency, increase expense, and add greatly to the difficulty of securing water-power development upon conditions fair both to the people and the companies.

First. The proposed transfer would lead to duplication. The district foresters, engineers, supervisors, clerks, and others now handling national forest water-power questions are all, with few and unimportant exceptions, occupied also with other duties which could not be taken out of the Forest Service. The men who are doing the work now could not therefore be transferred with the work itself. To transfer it would lead to little or no saving in the Forest Service, but on the contrary, to the creation of a duplicate organization in the Interior Department, with a corresponding increase of officials, salary roll, and traveling expenses necessary to transport the new Interior Department officials to and from places where the Forest Service men are already present in the course of their regular duties. Also, there would be no corresponding benefit, for the work is better done now than any force not trained in forest work could do it.

Second. The proposed transfer would greatly increase the expense of doing the work. The Interior Department would be required, if it took charge of water-power questions on national forests, to create new officials, with salaries and very heavy traveling expenses, to attend to (*a*) the location of water-power projects in the national forests, with relation to complete use of the stream and to the protection and uses of the forest; (*b*) the preparation and discussion of the terms and conditions of each contract with the power people on the ground and at headquarters; and (*c*) the inspection of the water-power companies in the national forests to see that they observe the terms of each contract.

Unless the Interior Department did these three things its function with relation to water power on the national forests would be merely that of recorder of decisions and actions taken elsewhere, and there would then be no reason whatever for making the transfer.

Third. The work is better done now than it could be done in the Interior Department. As a matter of fact, the necessary expert knowledge now supplied by the Forest Service in handling water-power questions could never be furnished by any other bureau, because the handling of water powers in the national forests can never be solely an engineering question. It is and must always be intimately related to questions of the protection of streams and water sheds; the location of dams, conduits, and flumes with relation to other uses of the forest; the cutting of timber for construction and repair; the precautions required to be taken by the power companies for protecting the national forests against fire, the location, construction, and use of roads, trails, and telephone lines; and above all the constant succession of questions which

must and do rise between the Forest Service, the power companies, and other users of the national forests.

Fourth. It would not simplify, but greatly confuse and complicate the administration of the national forests, each of which is a unit in itself and in charge of one man, to give the officers of another department charge of portions of the executive work within them. Each forest would then have two masters. The Interior Department has at present no executive work of any kind in the national forests, but deals purely with legal questions of titles and easements. It has nothing to do with handling the forests and should not have.

Fifth. The Department of the Interior is not organized to manage land, but to transfer the title to land. The object of the Interior Department with relation to the public lands is almost exclusively to dispose of them. It has never managed any part of the public lands for permanent production, which is what the Forest Service is doing, and it is not equipped by tradition or organization to manage them with success. This is well shown by its administration of Indian lands, which, it is generally recognized, has been a conspicuous failure.

Sixth. The national forests will remain permanently in the Government ownership; the public domain will not. When the public domain is gone the Interior Department will have no water powers of its own to look after. If this proposed transfer were made, therefore, it would some day be necessary to retransfer the charge of the national forest water powers out of the Interior Department either back to the Forest Service, which would be good administration, or to some other body, which would be as bad administration as the proposal now made.

Seventh. Water powers on the national forests contain from three to five times as much horsepower as those on the public domain. In this respect the proposed transfer is a proposal to have the tail wag the dog.

Eighth. The modern water-power policy of the Government was developed in the Forest Service. About six years later the Interior Department followed on, and its recently adopted policy is, except in minor details, modeled directly upon the policy which the Forest Service worked out. The Ferris bill itself, when enacted, will give that same policy the force of law.

The proposal to transfer the charge of water power in the national forests from the Forest Service to the Interior Department is, therefore, a proposal to transfer it from an organization which has been the leader, and the conspicuously successful leader, in this field, to one which has been merely a follower and is yet substantially untried.

Ninth. The proposed transfer would not assemble all Government water-power control under one head. Until Congress is prepared to face the organization of a large new body of expert engineers the present water-power work of the Army engineers must remain with that corps, which has charge of our harbors and navigable streams. It is obvious that the development and use of water powers on these streams can not be separated from their development and use for navigation. Neither can the development and use of water powers in the national forests be separated with good results from the national forests, part of whose resources they are and on whose watersheds they depend.

You will, I hope, pardon me if I seem to speak with some confidence in this matter. My judgment is based not only upon my acquaintance with the Forest Service and with its water-power policy, which was built up while I was Forester, but upon a knowledge of the organization and management of nearly every part of the Government service. This knowledge was gained as a member of the Commission on the Organization of Government Scientific Work, the Public Lands Commission, and the Commission on Departmental Methods. During the years of my service on these commissions I was obliged to familiarize myself with not only the Government work in Washington and outside but also with the best way to improve it, both in organization and in routine processes.

Upon the basis of this experience and of the facts in this letter, I believe I am right when I make the definite statement that the proposed transfer is wrong in principle, unnecessary, and undesirable; that if made it would result not in simplification and economy, but in complexity and confusion, needless duplication, and increased expense without due cause; and that under it the management of the water powers on national forests would be far less satisfactory and efficient than it is now.

Sincerely, yours,

GIFFORD PINCHOT.

EXHIBIT I.

MESSAGE OF THE SWISS EXECUTIVE COUNCIL TO THE SWISS FEDERAL CONGRESS CONCERNING THE LEGISLATION DEALING WITH WATER POWERS.

[Dated Mar. 30, 1907.]

On March 30 and 31, 1906, the Congress adopted the following memorial, together with a resolution concerning the delivery in foreign countries of power developed from waters within the national boundaries:

"The Executive Council is requested to prepare for the two houses of the Federal Congress, without delay, outlines of such constitutional amendments as may be necessary completely to safeguard the economic and national interests involved in the acquisition and utilization of our water powers."

By our letters of July 10 and August 20, 1906, we informed you that an initiative petition, with 95,668 signatures, of which 95,290 were found to be authentic, have been received by us praying for an amendment to the constitution by the adoption of a new article, in the following words:

"ART. 23b. The legislative power of the union shall include the regulation of the exploitation of water powers and of the transmission and delivery of the energy developed therefrom.

"But the several Cantons, or those duly authorized by the cantonal laws, shall be entitled to the fees and imposts paid for the use of water power.

"From the date of the adoption of this article all new concessions of water rights shall be subjected to future Federal legislation, and the delivery of the energy developed by water power to foreign countries shall be subject to the approval of the Federal Council."

The House of Representatives and the Senate, by their resolutions of November 15 and December 17, 1906, respectively, have transmitted this initiative petition to us for report.

In executing this twofold commission we first investigated very carefully the constitutional amendment proposed by the initiative petition, and then, since we found this amendment unacceptable, we endeavored to work out a substitute. Now, the very same reasons that decided us against the proposed amendment are the basis of this substitute which we propose, and we therefore consider it proper to deal with both drafts in the same message.

I.

The idea of enlarging the legislative power of the union to include the regulation of the development of water powers was first expressed in the year 1894 in dealing with a memorial from the "Swiss Free Land Co.," and the joint resolution of April 4, 1895, adopted on that occasion, had reference, among other things, to the regulation of intercantonal relatins in respect to water-power plants. A further step was taken by the Zschokke motion of June 29, 1898. This motion not only demanded the regulation of intercantonal streams by a special water-works act. but also pointed out as a problem for Federal legislation the supplementing of the often insufficient cantonal laws, and the introduction of Federal supervision over water-power plants. This opened up a new field for future legislation dealing with water powers, and the House of Representatives, in a memorial attached to the report of business for 1901, requested the Federal Council to consider the question of electrifying the Swiss railways. The Muri motion, which was offered in December, 1902, considered by the House of Representatives April 5, 1904, and approved by us, showed the possibility of utilizing electric power altogether in railways, and also pointed out the economic danger of a more or less unrestricted monopoly of the valuable Swiss water powers by private capital, both domestic and foreign. This motion and the discussion of it, besides enumerating individual points which could be covered by legislation, was conspicuous for the great emphasis it laid on the need of carefully formulated plans to safeguard the public interests in the development of water power. The same ground is taken by the above cited memorial of March 30 and 31, 1906, which is the last act of Congress dealing with the question of the use of water power, but this memorial differs from all previous memorials and motions in that it does not demand a special law, but proposes the necessary changes in the constitutional law.

However, although this latest memorial declares only that the object of amending the constitution and the aim of national legislaion is "a complete

safeguarding of the economic and national interests in the acquisition and utilization of our water powers," yet in our judgment the same considerations hold in the revision of the constitution and of the laws as led to the adoption of the earlier memorials concerning Federal legislation on water powers, the considerations, namely, which we have just mentioned in the above short historical summary. Accordingly we are convinced that the new article of the constitution which should make it possible for the Federation to legislate on the following points at least:

(*a*) The rational utilization of intercantonal and boundary streams.

(*b*) Supplementing inadequate cantonal laws.

(*c*) The rights of the Federation as proprietor of the Federal railroads.

(*d*) Measures in the interest of the common good.

In order to solve the problem of framing such an article for the constitution as will, on the one hand, give the Federation the necessary powers in the indicated directions, and, on the other hand, give full and satisfactory consideration to the just interests of the Cantons, our Interior Department called together a commission of jurists and experts. This commission, which met in Bern on July 9, 10, and 11, 1907, and which published a report of its proceedings, after thorough consideration unanimously adopted (one commissioner being absent) the following draft of a new clause for the constitution:

"ART. 24b. The development of water power is under the supervision of the State (Federation).

"The Federation has the power to make laws covering the disposal and character of water-right concessions, as well as concerning the transmission and delivery of electrical energy, so far as may be necessary to safeguard the public interests, and to guarantee the development of water power in conformity with those interests.

"Where the Federal law does not regulate the character of water-right concessions, the disposal of such concessions, as well as the fixation and collection of the charges and costs for the use of water power, rests with the Cantons. But these charges made by the Cantons shall not be made so heavy as to discourage the development of water powers.

"When the streams from which the power is developed lie in several Cantons, the disposal of the concessions and the fixing of the charges are Federal matters, though the Cantons concerned will be consulted.

"From the date of the adoption of this article all new concessions of water rights shall be subject to future Federal legislation, and the delivery of energy developed from water powers to foreign countries shall be subject to the approval of the executive council."

Comparing the two drafts, the initiative and the proposal of the advisory commission as they deal with the fundamental question of supplying Federal jurisdiction over cantonal rights, the following may be established:

The initiative takes from the jurisdiction of the Cantons the right to make laws dealing with the development of water powers, and concedes this right, together with the right of making laws dealing with the transmission and delivery of electrical energy, in principle, to the Federation. In order to compensate the Cantons for the loss of this jurisdiction in the Federation, the initiative draft furthermore lays down the principle that the Cantons or communities have the right to collect all charges made for the use of water powers.

The separation of the jurisdictions, as laid down by the expert commssions, is not to be easily defined. In the first place, the Federation is given supervision over all such use of water as is made by Cantons, cummunities, and individuals; in this direction the amendment proposed by the commission goes further than the initiative draft. The amendment of the commission holds closer to the present distribution of rights in other respects between the Federation and the Cantons. It is true that section 2 provides for Federal regulation of water-right concessions in the public interest in order to secure their rational development; and also it expressly recognizes the right of the Federation to regulate the transmission and delivery of electrical energy. In other respects, however, the draft of the commission leaves to the Cantons the right to legislate upon all points dealing with cantonal water power which have not been covered by Federal legislation, especially the disposal of concessions and the fixation of charges and imposts. In all cases dealing with streams lying within Cantons, jurisdictions is left in the hands of the Cantons. At the same time a particular point is made that the Cantons shall not so charge for water utilization as to embarrass the development of power.

The additional important question as to who is to have the disposal of water-right concessions in the future is not settled in the initiative draft, which leaves this matter to be decided by future legislation.

The advisory commission settles this point by deciding that, as a rule, the Cantons or the properly constituted cantonal authorities shall dispose of these concessions, except that, with regard to so-called intercantonal and boundary streams, the Federation may grant the concessions and fix the rights. In the latter case, however, the Cantons shall be entitled to preliminary hearings and shall collect the charges.

The last selection of the two drafts is the same. It contains provisions with regard to the retroactive power of the provisions of future water-right legislation and with regard to the consent of Congress when energy developed from water power is delivered abroad.

Finally it should be pointed out that the signers of the initiative draft wish to have it adopted as article 23b of the constitution whereas the commission desires to have its draft placed after article 24 of the constitution, and in a measure extending and supplementing that article.

III.

The last-mentioned fact is an indication of the character of the two different proposed amendments. The one which came from the people is linked to article 23, which confers upon the Federation the right to erect and maintain public works, and in this way betrays, although no word is said upon the subject, the tendency of popular thought toward Federal ownership or monopoly of water powers. The amendment proposed by the commission, on the other hand, by connecting itself with the existing article 24, makes it clear that its intention is to follow the way already taken in distinguishing between the Federal and Cantonal jurisdictions in the matter of water rights. It appears that just as there is now a division of authority between the Federation and the Cantons in the care of waterworks, forests, and game protection, so there is to be a similar division of authority hereafter in the development of water powers. The right of supervision will place the Federal courts in a position to intervene and take a decisive voice in all cases where our streams are developed for power purposes, whether they do so on their own initiative or at the request of some interested party. Furthermore, the concession of ample legislative power, such as is contained in section 2 of the commission's amendment, will enable the Federation to discharge the duties devolving upon it, and especially to take the necessary measures in the interest of the general welfare, setting aside existing legal difficulties and securing the interest of the Federation as proprietor of the Federal railways.

Es liegt kein grosser Fortschitt darin, in einem schenen Verfassungsartikel die Kompetenz des Bundes zu statuiren und alle Schweirigkeiten, die zu beseitigen sind der Gesetzebung verzubehalten, und speziell da, wo es gilt, ransch zu einem Ziele zu Galengen, ist die Anwendung dieses. Systems nicht am Platze. Darum prazisiert der Entwurf eines Verfassundsartikels, den wir Inhen zur Annahme empfehlen nicht nur das zukunftige Verhalthis der Bundes- und Kantonalen Komptenz, sondern er entscheidet auch sogleich die schmierige Frage, wer bei der Neuordung des Wasserrechts die Konzessionen zu erteilen haben wird.

To accomplish this object is by no means necessary, as the initiative amendment proposes (in imitation of the railroad article 26 of the constitution) to assign legislative authority over the entire utilization of water to the Federation and for this reason the most profitable part in the exercise of water sovereignty should not be taken entirely from the Cantons and given to the Federation, except at the dictate of pressing necessity. This circumstance alone, taken together with its pronounced tendency toward monopoly and the State ownership of waterworks, appears to us an argument against the initiative amendment and for the amendment of the commission. Furthermore, the popular amendment in spite of all this seems to offer too slight a basis for future supplementary legislation. True, the form of this amendment is so simple and it disposes of the most vexed questions of water rights with such apparent ease, that it is well adapted for securing signatures; in point of fact, however, an amendment drawn in accordance with the popular desire would not contribute very much toward a speedy settlement of the water-right questions affecting the Federation is made to lay down the jurisdiction of the Federation in a soundly constitutional amendment, and at the same time leave unsolved for

future legislation all the questions that have to be met. This system of procedure is especially out of place where the point is to get results as quickly as possible. For these reasons the draft of the amendment which we recommend for your adoption presents not only the future relation of the Cantonal and Federal jurisdictions, but also decides the troublesome question as to who, under the new regimé, is to have the disposal of water rights.

We expressed ourselves upon this subject as early as June 4, 1894, in our report upon the memorial of the Free Land Society, saying then that the regulation of the intercantonal water-right concessions was hardly to be secured by any other way than by Federal legislation. In fact, the realization of various waterworks projects, especially in eastern and central Switzerland, has been made impossible because of the interested Cantons or the interested towns in Cantons have not been able to get together in the use of intercantonal streams, while the Federal authorities have been unable to intervene. In order to prevent such difficulties in the future and in order especially to promote an economical and rational utilization of streams, it is to be recommended to introduce a Federal concession wherever Swiss boundary waters or parts thereof, which touch upon the territory of two or more Cantons, are to be used for the development of power. It makes no difference in such cases whether the fall of the stream which is drawn upon for a given waterworks forms the boundary between two Cantons, or whether the boundary runs obliquely across the stretch of water which is being developed. In order, therefore, to avoid misunderstandings in such cases, we offer the following substitute for section 4 of the commission's amendment, which contains only slight editorial change.

"In cases where water power is developed on streams which touch upon the territory of several Cantons or upon boundary lines, the disposal of concessions as well as the fixation of the charges and rates to be collected by the Cantons will rest with the federation, after hearings have been given to the Cantons interested."

We believe also that the last clause needs to be changed. This was adopted by the advisory commission just as it stood in the initiative draft. The object of this is, in the first place, when the provisional resolution of the Congress dealing with the delivery of domestic water power abroad (passed Mar. 31, 1906) shall have expired, to make possible further measures of the same nature; and, in the second place, to make retroactive future legislation dealing with the concession of water rights to the date of the adoption of this article. As the draft of the commission's amendment stands, the application of future provisions is made dependent upon whether the Cantons or communities making the concessions accept the necessary restrictions in the deeds of concession. We are of the opinion that it is injudicious to require in every individual case where a concession is made that the necessary restrictions be accepted and that it is juster not to provide for all these detailed points in future legislation exclusively by means of the retroactive power of the constitution alone. We are convinced that it would be better to leave it to Congress to make all these decisions as they may arise. On the other hand, in this case it is unnecessary to make distinction between the concession of water rights which were made before the adoption of the amendment and those which would be made thereafter; suffice it to lay down the applicability of future Federal legislation to all existing water-right concessions, and in this way the Federal laws themselves will be able to make the necessary exceptions. The final clause of the amendment, according to the commission, would then be replaced by the following two clauses:

"The delivery abroad of energy developed from water power shall be made only with the consent of the Federal Council."

"The provisions of the Federal law apply also to the existing concessions of water rights, unless exception is expressly made."

The new amendment to the constitution, as we recommend it to you and as changed above, reads as follows:

"ART. 24b. The Federation has supervision over the development of water powers.

"Federal legislation will make regulations dealing with the disposal and character of water-right concessions, as well as with the transmission and delivery of electrical energy, so far as the protection of public interests and the proper development of these resources require such legislation.

"Wherever Federal legislation does not regulate the terms of the water-right concessions the disposal of these concessions, as well as the fixation and

collection of charges and imposts for their use, are under the jurisdiction of the Cantons. This regulation by the Cantons must not seriously embarrass the development of the water powers.

"In cases where water power is developed on streams which touch upon the territory of several Cantons or upon the boundary lines the disposal of concessions, as well as the fixation of the charges and rates to be collected by the Cantons, will rest with the Federation, after hearings have been given to the Cantons interested.

"The delivery abroad of energy developed from water power requires the consent of the Federal Council.

"The provisions of the Federal laws apply also to the already existing water-right concessions, unless exception is expressly made."

With the foregoing we might well regard our task as completed for the present. But we should be glad to have permission to say a few words concerning further procedure in the matter. In accordance with the provisions of articles 8, 9, and 10 of the Federal law dealing with the procedure in initiative and referendum action in revision of the Federal Constitution of January 27, 1892, the Congress is charged with deciding whether it will approve of the initiative proposal or recommend its rejection by the people, and whether in that case it (the Congress) will put to the votes of the people and of the upper House a substitute amendment of its own drafting upon the same subject. We have already recommended that the latter course be taken. Now, therefore, the text of the initiative petition contains the following passage:

"On February 26, 1906, the initiative committee, meeting in the music hall at Zurich, received from the petitioners of the initiative full authority, in case the Congress should agree upon an amendment to the constitution harmonizing in the main points with the wishes of the petitioners, to decide by its own majority vote whether the iniatiative amendment should not be withdrawn in favor of the proposed substitute."

We have provided for this possibility in the following draft of a resolution. In other words, "In case the above-cited initiative petition should be put to the vote of the people and of the council, provided the initiative committee shall not have first withdrawn it by notice to the Federal Council within the proper time in favor of the substitute amendment of the Congress."

Finally, we have the honor to inform you that our department of interior will continue with dispatch to make a study of the circumstances affecting Federal legislation dealing with water powers, and that it will, with the cooperation of the above-mentioned advisory commission of experts, work out a provisional water-right regulation for the Federation.

Accept, honorable sirs, the expression of our utmost respect.

Bern, March 30, 1907.

In the name of the Swiss Federal Council.

Federal President:

MULLER.

Treasurer of the Federation:

RINGSTER.

DRAFT OF A FEDERAL RESOLUTION ON FEDERAL LEGISLATION DEALING WITH WATER POWERS.

The Congress of the Swiss Federation, after reading the initiative petition received on June 27, 1906, from the Federal Council, and carrying 95,668 signatures, requested the adoption of a new article 23b to the constitution, as follows:

"ART. 23b. The legislative power of the union shall include the regulation of the exploitation of water powers and of the transmission and delivery of the energy developed therefrom.

"But the several Cantons, or those duly authorized by the Cantonal law, shall be entitled to the fees and imposts paid for the use of water powers.

"From the date of the adoption of this article all new concessions of water rights shall be subject to future Federal legislation, and the delivery of the energy developed from water power to foreign countries shall be subject to the approval of the Federal Council."

And after reading the message of the Federal Council, dated March 30, 1907, now, in accordance with articles 8, 9, and 10, of the Federal law of January

29, 1892, dealing with petitions and ballots upon revision to the constitution, resolves—

(1) The above petition shall be put to the vote of the people and of the Senate unless the initiative committee, within the proper time, withdraws it in favor of the proposed substitute of the Congress.

(2) In case the ballot is taken the Congress recommends the rejection of the initiative petition and the adoption of the following, which is in addition to an article of the constitution of May 29, 1874.

"ART. 24b. The Federation has supervision over the development of water powers.

"Federal legislation will make regulations dealing with the disposal and character of water-right concessions, as well as with the transmission and delivery of electrical energy so far as the protection of public interests and the proper development of these resources require such regulation.

"Wherever Federal legislation does not regulate the terms of the water-right concession, the disposal of these concessions as well as the fixation and collection of charges and imposts for their use, are under the jurisdiction of the Cantons. This regulation by the Cantons must not seriously embarrass the development of the water powers.

"In cases where water power is developed in streams which touch upon the territory of several Cantons or upon the boundary lines, the disposal of concessions as well as the fixation of charges and rates to be collected by the Cantons, will rest with the Federation, after hearings have been given to the Cantons interested."

(3) This amendment to the constitution is also to be put to the vote in case the initiative petition is withdrawn.

(4) The Federal Council is charged with the execution of this resolution.

WATER-POWER LAW RECOMMENDED BY THE GOVERNMENT AS REPORTED BY THE COMMISSIONER OF PUBLIC WORKS, M. PIERRE BAUDIN, TO THE CHAMBER OF DEPUTIES.

* * *, consul general at Paris, writes January, 1913, that this is the law that passed the House of Deputies and would be in force at an early date.

SECTION I.

ART. 1. Hydraulic power plants established on the public domain shall be classified as "authorized power plants" and "power plants under concession."

ART. 2. Authorized power plants shall be defined as those which develop a gross energy of not more than 250 horsepower at low water, and which have not for their principal purpose the sale of power. All other power plants shall be designated as "power plants under concession."

SECTION II.

ART. 3. Authorized power plants shall be governed by laws and regulations now in force. All authorizations are subject to cancellation, and they shall not in any case be granted for a period longer than 50 years. At the expiration of that period the grantee shall, if the authorization is not renewed, restore the premises to the condition previously existing or deliver the power plant to the Nation without indemnity therefor, as the Nation shall elect.

ART. 4. In the case of power plants now in existence, the 50-year period fixed by the preceding article shall begin from the time of the passage of this act.

ART. 5. The surplus power of any authorized plant may under exceptional conditions, be sold to the public under regulations promulgated by the minister of public works.

SECTION III.

ART. 6. All concessions for power plants shall be limited to a specified term and shall be made the subject of articles of concession, conforming to one of several types approved by decree of the state council, with modifications and conditions which shall be expressly specified in the articles of concession.

The concession shall be granted in the name of the Nation by decree rendered in the form of a public administrative regulation. In case the project

necessitates the diversion of water from its natural course for a distance greater than 20 kilometers, measured along the river channel, or if the capacity of the proposed plant is greater than 18,750 horsepower, no concession shall be granted except by enactment of a special law in Parliament.

Subsequent regulations concerning the use and distribution of the hydraulic power shall be promulgated by decree of the State Council, after inquiry: *Provided*, That the foregoing requirements shall not apply to power plants which constitute a component part of an enterprise declared to be of public utility, which shall be subject to special regulations determined by decree of the State Council.

ART. 7. The concessionaire shall be invested with authority to execute the works defined in the articles of concession, together with all rights which the laws and regulations confer upon the administration in the matter of public works, and said concessionaire shall in turn comply with all the obligations imposed upon the administration by such laws and regulations. In case of expropriation, the procedure must conform to the law of May 3, 1841, in the name of the nation and at the expense of the concessionaire.

ART. 8. The holder of a concession for a power plant shall have the right to occupy private property necessary for the storage of water and for the establishment of underground conduits, supplying water to the power plant and conducting it therefrom, in conformity with the terms of the concession as approved by the administration.

Such occupation of private property must be preceded by notification to all parties interested, and by special inquiry held in each of the communes where the aforesaid works are to be established.

Indemnities accruing from such occupation shall be regulated in the first instance by the civil tribunal; if appraisal is necessary, the tribunal shall name but one appraiser.

ART. 9. The articles of concession for power plants shall specify—

1. The location of the plant.
2. The duration of the concession.
3. The works, lands, housing, and equipment of every kind constituting the stationary appurtenances of the concession.
4. The amount of water to be used by the power plant, and particularly the provisions for its regulations so as to avoid damage to navigation and to afford protection against floods, to safeguard the public health, to conserve the interests of the people in the matter of water supplies and irrigation, to protect and provide for the migration of fish, and to preserve the natural beauties of the landscape.
5. The amount of rental to be paid to the nation for the use of the water, and the obligations incurred in connection with works previously established by the nation for purposes of navigation, if any, together with all other financial conditions imposed by the concession.
6. The amount of sureties.
7. The maximum charge for the sale of power to the public.
8. The amount of water or power to be reserved for the benefit of public services, and the conditions under which it must be placed at public disposal.
9. The methods of national control, and provisions for the expense thereof.
10. Conditions under which the right of redemption may be exercised by the Government.
11. The rights and duties of the concessionaire, in general, both during the concession period and at its expiration.

ART. 10. All the improvements comprised in the power plant, including the real property and rights of way occupied by it, as specified in the articles of concession, shall become a part of the public domain and shall be subject to police regulations in the same manner as are the public roads, for violations of which there shall be imposed penalties of 16 to 300 francs (about $3 to $55).

ART. 11. At the expiration of any concession for a power plant, the nation shall immediately take possession of the plant and appurtenances constituting a part of the public domain, as defined in the preceding article, without liability for indemnity.

ART. 12. All power plants which have in whole or in part been declared of public utility and those under concession which do not have for their principal purpose the sale of power may at all times dispose of excess power not utilized in the regular operation of the plant, under conditions fixed by the State council, on report of the minister of public works.

ART. 13. Power plants already in existence authorized under precarious and revocable title and disposing of a gross primary horsepower in excess of 250 horsepower, or having for their principal object the sale of power, must, within a period of five years from the date of passage of this act, be placed under concession by decree.

SECTION IV.—*General provisions.*

ART. 14. Water courses, or parts thereof, including canals of the public domain, to which this act shall apply, are (1) those specified in the schedule accompanying the order of July 10, 1835, classified in conformity with other orders subsequent thereto; (2) those classified as a part of the public domain at the completion of works declared of public utility or following acts of redemption. Such water courses and parts thereof and canals shall not be separated from the public domain except by enactment of law.

All claims based on rights acquired on water courses under paragraph 1 of this article shall, under penalty of forfeiture, be instituted within one year from the date of passage of this act.

ART. 15. The rental accruing to the nation from authorized power plants or those under concession shall conform to article 44 of the law of April 8, 1898, and to regulations made or to be made in execution of that law. By such regulations shall be fixed the special conditions governing rentals applicable to plants established on the canals of the public domain.

ART. 16. Administrative regulations based on report of the minister of public works shall cover—

1. Form of water regulations for authorized power plants.
2. Form of articles of concession.
3. Forms for plans and specifications covering projects and their approval.
4. Procedure to be followed in connection with the various inquiries relative to concessions and authorizations for power plants, and in the establishment of rights of way.
5. Rules for national supervision of power plants under concession, the cost of which shall be borne by the concessionaire.
6. General regulations covering the sale of surplus power, as provided in articles 5 and 12.
7. In general, all necessary measures for the execution of this act.

ART. 17. This law shall not apply to power plants already in legal existence.

ART. 18. All laws and regulations in contravention of this act are hereby repealed.

LAWS FOR THE REGULATION OF THE DEVELOPMENT OF WATERFALLS IN NORWAY AS PASSED BY THE STORTING AND SIGNED BY THE KING ON THE 18TH OF SEPTEMBER, 1909.

LAWS AS TO ACQUIRING WATERFALLS IN NORWAY.

CHAPTER I.

PART 1. Without the consent of the King no one in the Kingdom excepting the Government, a Norwegian community, or a Norwegian subject can acquire real property or the right to use waterfalls for power purposes, either alone or jointly with others in utilizing the falls, where the power by regulating produces more than 1,000 natural horsepower. As to effective force of the falls, this is determined by judicial authority.

PART 2. Foreign corporations, companies, stock companies, and other companies with limited responsibility who have their main office in Norway and a majority of whose directors are Norwegian subjects can, where no objections exist, obtain concession to acquire waterfalls on the following conditions set forth in the following rules:

1. Concessions are granted to certain persons or companies. It is stipulated as a condition that the enterprise is partly financed by Norwegian capital. If a company desires a concession, one of the conditions which may be imposed, a majority of the company's shares may belong to some one already owning or using waterfalls in Norway or who has a majority of shares in some other company owning or using waterfalls in Norway.

2. Concession grants the privilege of using the waterfalls as a source of power in accordance to the concession terms and at all times complying with the laws regarding such a plant. It may be determined that the power can not be employed for certain industries .

3. Work on the construction plant of the waterfalls must commence within five years or sooner. Work on the water damming must be completed and the running of plant commenced within seven years at least. Running of the plant must not be stopped for five continuous years or continually limited to less than a fourth of the plant's energy. Stopping and delays must not in the course of 10 years exceed 5 years. Reckoning is not made of the time by reason of unforeseen delays which may arise or take place. When condition warrants it, work on the waterfalls may be gradually done within a certain period of time. The King can determine the time of the works construction.

4. The work on the waterfalls power plants should as far as practical be done by native-born Norwegian laborers and employees. When no objection is raised by the community, foreign laborers can be employed, provided they have resided for the past year in Norway. Likewise Norwegian material and insurance should be given an opportunity to compete with foreign companies. The same requirement may be exacted for exploits which belong to the concession applicant and are provided with power from the plant. Particular rules set forth in the concession regarding the above matter.

5. Laborers must not be forced to accept goods in lieu of wages or influence in buying goods (in which is not included explosives, working tools, and other working materials). If the concessioners keep a store for the workmen the net profits after revision at the close of the year shall be applied for a public utility purpose for workmen. Its disposal is determined after a conference with one of the chosen delegates of workmen, who, in a case of dispute, can demand that the matter be laid before the proper department of the Government.

6. When circumstances permit houses should be erected and ground laid out for the workmen and a place made for a meetinghouse to be used for cooperation or other commercial branches or the like.

7. Concessioners shall be obliged to collect a fund for the establishment of a poor fund in accordance with the regulations and poor laws of May 19, 1900, chapter 4, under the title of "Mining works." Likewise the concessioner shall set aside a fund for the establishment of a poor community in case of increasing work and enlargement of power plant. The fund shall be under the public control. That part of the fund which is not used in covering the expenses for the maintenance of the workmen at the set plan shall be returned to the concessioners.

8. Where the water power is used for electric power the concessioners can not without the department's approval enter into any agreement on the increase in its rate for power or give electrical power to foreign countries without the Government's permission.

9. It shall be inserted in the concession that the concessioners are obliged to surrender 5 per cent of the produced electric power to the community where the power plant is located or other interested communities determined by the department, likewise the Government has the right to use 5 per cent of the power. The power can be had at a maximum price, calculated to cover the cost of production with the addition of 20 per cent. In the cost of production there is reckoned 6 per cent on the invested capital. The amount of paid in capital is decided by an agreement between the department and the concessioners, or in lack of this by law. It can be stipulated that the agreement may be revised at a given time. The concessioners should bear in mind that the commissioner has full and ample power over the water power before the granting of the concession. If the plant is employed in another form than the production of electricity the same regulations will have to be followed.

10. The concessions are granted for the following terms: For at least 60 years and not to exceed 80. The time is reckoned from the publication of the announcement of the concession. Where the concession has expired the waterfalls with improvements and works revert to the Government. Likewise it is agreed that the power station with all the machinery reverts to the Government. That which does not go to the State can be bought at its appraised value, or ordered to be removed within a certain time by the department.

11. The concessioners need only to state old mortgages, servitude of particular importance, rent rights, and such mortgages canceled or substituted prior to those in the concession stated obligations, also the fines which are mentioned in paragraph 17.

12. It is further necessary in transferring of waterfalls to obtain the King's permission, even if the new possessor is a Norwegian community or subject. One must in every case submit to the conditions named in the concession. Besides the above permission one has also to agree to the conditions laid down in section 1. The permission for the transfer can be had only when the public interest is not damaged.

The concession with conditions must be recorded with the commissioner's account. All of the recorded mortgages which are mentioned in section 10 become null and void after being transferred to the State. When the waterfall is transferred to the State a notice is sent to the department for record and publication. Any person who has a claim or mortgage on the waterfall can beforehand obtain permission according to this paragraph to purchase an interest in the waterfall at public sale in a sum equivalent to the amount of his claim. The concession time is to be reckoned from the time the concession was published, but the same conditions continue in force after possession is had. Should the owner of the waterfall obtain a concession before the mortgagee, thereby acquiring the unexpired time of the concession, then the concessioner must notify the mortgagee that he is in possession for the remainder of the concession period.

13. Purchase of power produced by water power: Without the King's permission no one excepting the State or community can obtain or use power produced by water power in larger force than 500 horsepower. Such permission is only necessary if the waterfalls which produces the power is over 1,000 natural horsepower, according to the method set forth in paragraph 1.

14. Persons, corporations, organizers, together with stock and other companies with limited power can, where it does not meet with public disapproval, obtain permission from the King to possess and use more than 500 horsepower when the following rules are observed:

(1) Concessions are granted to certain persons, corporations, organizations, or companies as a rule is set forth that the companies headquarters are to be located in Norway and to consist wholly or partly of Norwegian subjects. The power to sell can not be transferred without the department's approval.

(2) It is stipulated that the power can only be used for certain industries.

(3) In the construction of buildings and operating of the plant as far as possible only Norwegian subjects should be employed, still where no objections are raised foreign subjects can be employed, provided they have resided in the kingdom for the last year, and in like manner should Norwegian materials and insurance have a preference when competing with foreign firms. Special rules as to the determination of these points are included in the concession.

(4) By the concession there can be assessed a yearly tax of 1.25 crowns for every horsepower over 500 horsepower. Such a tax can not be collected where the power is obtained from a waterfall as described in paragraph 2. The tax has to be paid at the end of the calendar year. If it is not paid when due, that is added interest at the rate of 5 per cent per annum recovered by an execution, and in case of bankruptcy it has the right of preference like taxes.

There is also provided a waterfalls committee whose duty is to arrange all matters pertaining to the concession, according to chapters 1 and 4. The committee shall render the decisions in all water powers questions which are submitted to them by the department. This committee is to consist of five members, namely, a director and four members, who are appointed by the King for a term of six years. Of the first appointees their terms expire as in a lottery drawing, two after three years' service. The director is succeeded by his vice; for each of the other members the King appoints an alternate.

For a violation of the waterfalls rules are provided for in the present law by a fixed fine, as either accruing interest until the matter is settled or is fixed by a certain fine for every violation. The fine collected, together with the amount of taxes, are applied toward a certain fund designated by the Storting. The King can, after a petition from the shareholders, change the rules which are fixed by law, though the change must not go beyond the limits which are set forth in the principal clauses; foreigners who obtain permission by paragraphs 2, 5, and 12, or operate such prospecting as is treated in section 10, shall, if a nonresident of this country, be obliged to have a representative in his stead where the property is, who, in his absence, is authorized to answer for him in court and other official matters which pertains to permits, property, plant, or the operation.

The representatives shall be authorized to receive petitions through the court of conciliation; his name and address will be placed on record. What

is stated here shall also hold good for corporations, organizations, or companies whose management is not in Norway and who receive permission according to sections 5 and 12, or carry on such prospecting as is treated of in section 10.

If the above-stated rules are not observed, the deputy judge can in the district in which the property is situated or operation carried on, or upon the petition of interested parties, appoint a person whose acts shall be binding upon the commissioner. The same holds good for corporations, organizations, or companies who have not the management in Norway.

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20. Decisions which do not agree with the rules provided for in paragraphs 1–3, 11–13, can only be settled by a royal decision.

21. If any document is desired recorded regarding property which, according to this law, needs the permission and such a one can not be had, the court clerk can, however, not refuse to have it recorded, but he shall, in such a case where it is doubtful about it coming under this law, record it in the mortgage registry and on the document. The notice shall be communicated by the county clerk to the department which decides its status.

22. If a judicial act has been granted not agreeing with the law by which proclamation or written authority, or if the purchaser or lessee is put in possession of the property and exercising all rights, the department shall appoint a time in which the disagreement shall be adjusted according to law, such as the acquirement of the necessary permission or the voluntary change of the judicial act, or by mutual sale, to some one who has the right to acquire the same. The time or period must be less than six months or longer than three years. It can be extended after the given rule in section 26 (b).

The department's decision according to this paragraph has to be placed on record. What is stated here as to the judicial act not agreeing with the law is also applicable to the judicial act which before the passage of the law of June 9, 1903, allowed others than Norwegians to acquire real property in Norway. The same refers to the acquiring of waterfalls, mines, and forests of June 12, 1906, with amendment of May, 1907, and January 24, 1908.

23. If the appointed time is disregarded in the foregoing paragraph besides what is mentioned in Chapter IV as to acquiring property or title, the Government demands without mediation or notice that it be sold at public auction. The sale shall take place in behalf of the owner or possessor, his representative, their creditors, or others having a claim on the estate or right of use. The sale is for account of the owner or possessor and is conducted in such a way that at the sale he receives no part of the receipts before his representative has received his pay for the property or its use. If the amount is not wholly covered, he can institute legal proceedings.

If the judicial acts relates to the acquirement and utilization of power produced by waterfalls shall at the expiration of the fixed time, whether the conditions have been fulfilled or not, the power connections must at once be disconnected, a violation of which is punished by fine.

24. If real property, or its use, waterfalls, or mines is inherited by some one who has not the right to acquire it, the action mentioned in paragrahps 22 and 23 has to be followed, however in such a way that it agrees with the treaties with the foreign countries, if such property belongs to a woman exclusively if she marries a man who has not obtained a royal permission to hold property.

25. Regarding corporations, organizations, or companies which have received permission according to the above law, and later undergo such a change that the legal permission or acquired conditions are no longer in force as set forth in paragraphs 22 and 23 made applicable to such cases.

The same concerns corporations, organizations, or companies who, according to this law, paragraph 11, or according to the Norwegian law or Norwegian subjects, rights, etc., of April 21, 1888, paragraph 9 on the law of the admission of other than Norwegian subjects to acquire real property or right of use in this country of June 9, 1903, paragraphs 1 and 2, who without permission have acquired the title to real property or right to use of real property in Norway, has undergone such a change with a view to the location of the administration or the composition of the administration board is no longer applicable to regulations in the fixed rules in such cases.

26. A person having a mortgage on property or right of use according to this law can acquire only the property by royal permission; he, however, can (*a*) take the estate or right of use in trust for five years; or, if this term is exceeded,

the Government, on behalf of the mortgagee with binding effect for him and to whom he may transfer this title, have the property sold at public sale; (*b*) where there is sold at public sale an estate or right of use, rules 22 and 23 must be complied with in such a manner that the department under special circumstances can extend the time to three years, as set forth in paragraph 22; where an estate is bought at a public sale in order to save the purchaser the right and title of the property on which there is a mortgage an extension of time can, according to paragraph 22, be presented as soon as the budget has been approved, if the mortgagee having first made use of the mortgage, the time will not be extended so long that the total period of possession shall not exceed save seven years.

27. The department can take legal steps in accordance with the criminal procedure law regulations to ascertain whether there has been any violations of the sections of this law or for the admission of other than Norwegian subjects in acquiring property or right of use in Norway, of June 9, 1903, or law as to acquiring forests, mines, or waterfalls of June 12, 1906, with the additional law of May 28, 1907, and of January 24, 1908, or for the amended rules for applying the commission.

28. Against companies or unions whose members are personally liable, the law as to acquiring property is applicable, and if the acquirement is done for the advantage of one of the members individually, then the strongest measures will be taken against him.

29. What is stated here about members of responsible companies, applies to responsible members, and managers in limited liability companies, responsible owners, and those not active in unprogressive companies. He who has made a second mortgage through which he obtains an interest in the management of the business or a share in its production, by this rule is considered an unactive member. The King can make exceptions in the regulations in the second and third phrases in certain investments or loans where a doubt exists.

30. When the waterfalls with the plant according to the terms of the concession reverts to the State, a part of the plant or its value, not exceeding one-third, shall be given to the community which by reason of regulations furnishes special water power or which stands in such relation to the plant that it has direct advantage by the connection.

The Storting decides in case of value and allots the shares to the communities and also divides it between them. It also decides the measure for the establishment of a fund for the advancement of the communities or to the amount of profit to be yielded by the plant to the community.

31. The present law takes effect immediately without regard to cases not agreeing with the existing regulations.

The law as to admission of other than Norwegian subjects to acquire real property or right of use in Norway, of June 9, 1903, together with the law as to acquirement of forests, mines, and waterfalls in Norway, of June 12, 1906, with the additional law of March 26, 1907, May 28, 1907, March 28, 1908, and March 23, 1909, are repealed with the exception of that part relating to the acquirement of title or right of use of forests.

PROVINCE OF ONTARIO, CANADA.

On January 17, 1898, the Ontario Legislature passed the following act with respect to water powers:

[61 Victoria, Ch. VIII.]

"Her Majesty, by and with the advice and consent of the Legislature of the Province of Ontario, enacts as follows: The commissioner of crown lands may reserve from sale any water power or privilege on the crown lands of the Province, and a sufficient area of land in connection therewith for the erection of buildings and plant, together with the right to lay out and use such roads as may be necessary for passage to and from such water power or privilege and land, and may, under regulations to be approved by the lieutenant governor in council, make terms and conditions upon which such water power and land so reserved may be sold or leased and developed."

On January 16, 1907, under this "Act respecting water powers," the lieutenant governor approved an order in council for the regulation of water

powers whereby supervisory jurisdiction was vested in the Hydroelectric Power Commission of Ontario, as follows:

"1. These rules and regulations shall not apply to water privileges which in their natural condition at the average low stage of water have not a greater capacity than 150 horsepower.

"2. In granting or leasing, otherwise than under these regulations, any crown lands upon which a water privilege is situated or which may be flooded or overflowed in consequence of the development and utilization thereof, the said privilege shall be reserved to the crown, together with such an area of land in connection therewith as shall in the opinion of the minister be required for the proper development of the same, and the construction of all necessary dams, weirs, tunnels, races, flumes, sluices, pits, and other structures or works, and the erection of buildings and plant for the employment and utilization of such privilege and storing ground and yards in connection therewith; and there shall also be reserved in any such grant or lease the right to flood any portion of the lands so granted or leased upon compensation to be made to the owner or lessee thereof by the person or persons to whom such privilege shall afterwards be leased; and the said water privilege, land, and right so reserved shall form a separate property and may be dealt with as hereinafter provided.

"3. The right to lay out and use such roads as may be necessary for the passage to and from such water privilege or land shall be reserved in all grants or leases of contiguous or adjoining lands.

"4. The applicant for a water privilege situated on crown lands shall file in the department of lands, forests, and mines a plan and field notes by an Ontario land surveyor or survey thereof, and also a report by a competent engineer satisfactory to the minister showing: (*a*) The location of the water privilege applied for, and a description of the land required in connection therewith; (*b*) the height of the fall or rapid, the volume of water at the average height, high and low stages of same, the estimated capacity in horsepower of the fall or rapid in its natural condition at the average low stage of water, the height of the dams or weirs (if any) which it proposed to construct, and the increase in the level of the water which such dams or weirs will bring about; (*c*) the plan by which the applicant proposed to develop the water privilege, showing the dam, weirs, tunnels, races, flumes, sluices, pits, and other structures or works which it is proposed to build or make in connection therewith the estimated cost thereof, and the form in which the power is to be used or transmitted—that is, whether by direct energy, electricity, compressed air, etc.; (*d*) the land or lands which would be overflowed or otherwise affected by the raising of the water or construction of the dams, weirs, sluices, races, or other works in connection with the development or use of such water privilege and the owner or owners thereof.

"The applicant shall also show the nature and location of the business, plant, or manufactory in connection with which it is proposed by the applicant to utilize the water privilege and the number of horsepower which the applicant proposed to develop and utilize, and shall furnish proof satisfactory to the minister that the said water privilege is required for the applicant's own mechanical or industrial purposes or to supply an actual or anticipated demand for power in the neighborhood of the privilege.

"Provided that the minister may dispense with the requirements of any of the preceding clauses of this regulation in case the information, plans, etc., required to be furnished are already in possession of the department of lands, forests, and mines.

"5. If so required by the minister, the applicant shall furnish at his own expense all such measurements, plans, specifications, descriptions, levels, profiles, elevations, and other information as he may deem necessary for the proper consideration of the application; and the applicant shall also, if required, submit plans and specifications showing the proposed works for the development of said privilege of the requirement, and such works shall not be proceeded with until the said power commission has approved the same.

"6. The applicant shall submit such proof of his financial standing and ability and intention to develop the said water privilege as shall be satisfactory to the minister.

"7. Before the lease of a water power is granted the minister may require the applicant to deposit with the treasurer of the Province a sum of money to be named by the minister, conditional upon the carrying out of the works of construction and development specified in the lease within the period therein named, such sums to be returned to the lessee upon due fulfillment of such con-

dition; otherwise to be forfeited to His Majesty the King for the use of the Province of Ontario.

"8. Upon compliance with the foregoing regulations and upon approval of the application by the minister in writing he may order a lease of the water privilege to be issued to the applicant upon such terms and conditions and at such rentals as may be fixed by the minister. The rental reserved by any such lease or any renewal thereof shall be payable yearly in advance.

"9. No such lease shall be granted for a longer period term than 20 years, but the lessee shall have the right of renewal of such lease for two further and successive terms of 10 years each upon such terms and conditions as may be agreed upon or may be fixed by the minister.

"10. The right of timber owners and others to drive their logs or timber down any stream, river, or other body of water, as now by law established, shall not be interfered with, lessened, or restricted by the granting of any such lease; and if any dam, weir, or other structure be erected or built in connection with the development of any such privilege with the object, intention, or effect of damming the water or impeding the flow thereof, full and proper provision, as now by law required, shall be made by the lessee for the sale and convenient passage of logs and timber over and through the same.

"11. The lessee under any such lease shall not destroy or obstruct the navigation of any river, stream, or body of water previously navigable, but shall provide such locks, canals, passages, and other means as may be necessary for the proper and safe surmounting or passing of any dam, weir, or other work made or erected by the lessee and as may be required for purposes of navigation by the Government of Canada.

"12. In addition to any other conditions or provisions required by the minister, the lease shall contain conditions and provisions to the following effect: (*a*) Requiring the development and use within a period or periods to be named in the lease of a specified quantity or quantities of power or energy, estimated in horsepower. (*b*) If the quantity of power required by the lease to be developed within a period or periods therein named is less than the full capacity of the said privilege, upon report being made by the said hydroelectric power commission to that effect and also that there is a bona fide demand for power which can be supplied therefrom, the lieutenant governor in council may, by order in council, require the lessee to develop the said privilege to its full capacity or to such other extent as he may deem proper or requisite within a period or periods of time to be named in the said order. (*c*) For the use by other parties than the lessee of surplus or unused water or power not required by him for the purposes of his business, plant, or manufactory on such terms as may be agreed upon. (*d*) Failing an agreement between the parties concerned as to the rates or conditions for supplying power by the lessee to any person, company, or corporation, or by any person, company, or corporation receiving power from the said lessee, and any other person, company, or corporation, either party may submit the matter to the said power commission, and any order made by the lieutenant governor in council upon report thereon by the said power commission fixing and determining the said rates and conditions shall be final and conclusive and binding upon all parties concerned. (*e*) In case of submission to the hydroelectric power commission as in paragraph "(*d*)" herein mentioned, the said lessee on being so required by the said commission shall produce all books, accounts, records, and statements, verified by affidavit, showing the cost of constructing, equipping, and maintaining the works for the development of the said privilege and delivering the power therefrom. (*f*) Upon complaint in writing being made that any municipal corporation is granting bonuses by supplying power, light, or heat below cost to manufacturers or others, whether the said corporation is the lessee of a water privilege or is receiving power therefrom from or through such lessee, the lieutenant governor in council may refer the matter to the said hydroelectric power commission, who may dispose of the same in manner provided by chapter 15 of the Ontario Statutes of 1906, or any amendment thereof. (*g*) For the purpose of ascertaining the quantity of power actually developed or capable of development from any water privilege or the amount of rental payable under a lease thereof, said power commission or any engineer appointed by it for that purpose shall have free access to all parts of the works, and all books, plans, or records bearing on the quantity of power, and may make measurements, take observations, etc., and any calculation as to the quantity of power so developed or capable of development made by the said commission or by such engineer

shall be binding upon the lessee. (*h*) The power and authority to acquire water powers and works by purchase, lease, or otherwise, or without the consent of the owners thereof conferred upon the said power commission by chapter 15 of the Statutes of Ontario of 1906, shall be exercisable by the said power commission in respect to any water power leased under these regulations or any works connected therewith. (*i*) During the construction of the works for the development of any water power the said power commission or any engineer appointed by it for that purpose shall have free access to all parts of the works for the purpose of inspecting the same and of ascertaining that the construction thereof is in accordance with the plans and specifications approved by the said power commission. (*j*) For the erection and maintenance by the lessee of a durable and efficient fishway when so required by the proper officer or authority in that behalf. (*k*) During the continuance of the lease the lessee shall keep and maintain all dams, weirs, tunnels, races, flumes, sluices, pits, and other structures and works necessary for the development and use of such privilege in good repair and condition, and shall not willfully or otherwise injure or destroy the same, or any part thereof, but at the expiry or sooner determination of the lease shall leave all such structures and works in good repair and condition, reasonable use and wear thereof and damage by fire and tempest only excepted, and so that their subsequent usefulness shall not be lessened by any act of the said lessee. (*l*) At the expiry or sooner determination of the lease the water privilege shall revert to and become the property of the Crown as fully as if no such lease had been granted, together with all dams, weirs, tunnels, races, flumes, sluices, pits, and other structures or works made or erected by the lessee in connection therewith and all buildings erected on land covered by the lease; but the lessee shall be allowed a reasonable time to be fixed by the minister in which to remove all machinery employed by him in the development and use of the privilege, failing which removal such machinery shall become the property of the Crown: *Provided*, That where any such buildings or structures are of a permanent character and necessary or useful for the proper development or utilization of the water privilege, the lieutenant governor in council may, upon report in that behalf by the said hydroelectric commission, pay the lessee by way of compensation thereof and purchase thereof, such sum or sums as he may deem proper upon the same being appropriated for the purpose by the Legislative Assembly of the Province. (*m*) The lease shall at all times be subject to any general regulations thereafter made by the lieutenant governor in council affecting the construction and operation of works for the development of water privilege or the supply of power therefrom.

"13. The lieutenant governor in council may cancel any water-power lease issued under these regulations for nonpayment of rental within 90 days after the same is due and payable, whether the same shall have been demanded or not, or upon report by the said power commission that the conditions as to construction of the works or the development or supply of power have not been complied with or that at any time after the water privilege has been developed either in whole or to the extent to which the lessee is bound or required to develop the same the said lessee has continuously failed or neglected for the space of one year effectually to produce power from the said privilege, either for his own use or that of other persons unless hindered by unavoidable accident or that the lessee has failed or neglected to comply with any of the conditions of the lease or any order in council respecting any matter or thing arising under the lease concerning which such order is made; and publication of any order in council canceling such lease shall be sufficient proof that the same has been duly and lawfully canceled: *Provided*, Due notice shall be given a lessee before such cancellation in order that he may have an opportunity of being heard, should he so desire.

"14. Where a water privilege is applied for by a municipal corporation for the purpose of supplying water, power, light, or heat for the use of the inhabitants of the said municipality, the minister may issue a lease of said privilege to such corporation if otherwise entitled to receive and hold the same, on such special terms and conditions as may be recommended by the said power commission, and at such rental as he may deem proper.

"15. The word "minister" in these regulations and laws means the minister of lands, forests, and mines, or any minister of the Crown performing the duties of the minister of lands, forests, and mines in his absence or during the

vacancy in that office; and the minister may refer to the hydroelectric power commission of Ontario any application for the leasing of any water privilege or any matter arising out of such application or any lease made in pursuance thereof, whether hereafter or heretofore issued, for consideration, investigation, and report.

"16. No water-power lease shall be valid or effective unless the same is issued under the great seal of the Province and is signed by the said minister."

PROVINCE OF NEW BRUNSWICK, CANADA.

[47 Victoria, Ch. VIII.]

"AN ACT To provide for the survey, reservation, and protection of lands;" passed on April 1, 1884.

In all grants hereafter to be made of Crown lands adjacent to the following rivers and streams: Nepisiquit River, Jacquet River, Upsalquitch River, Quatawamkedgwick River, Restigouche River, Charloe River, Patapedia River, Middle River, Little River, Tattaguoche River, Big Tracadie River, Tabucinata River, Dungarvon River, Renous River, North West Miramichi River and branches, Kouchibougac River, Kouchobouguclas River, Richibucto River, Green River and branches, Tobique River and branches, and all such other rivers, lakes, and streams as the governor in council may hereafter declare by proclamation published in the Royal Gazette, there shall be reserved to the Crown a strip or portion of land 4 rods in width from the banks of the streams or lakes on each side thereof, and the riparian ownership of the said streams shall remain wholly vested in the Crown; provided always, that the owner or occupier of any lot abutting upon said strip of land shall have a right of way across the same to and from the river or stream.

[4 Edward VII, ch. 32.]

April 20, 1904, the legislature passed an act declaring that the authority conferred by 47 Victoria, Chapter VIII, was extended to all water powers that then were or might come under control of the Province, further providing:

"Whenever the lieutenant governor in council may think it desirable in the public interest so to do, he may require by agreement, or by the expropriation, as hereinafter provided for, in the name of His Majesty, any water power, rights, or privileges within the Province, and the necessary land to enable such water powers to be properly developed: *Provided*, That he shall not expend or incur a liability for upward of $10,000 for such purposes without the approval of the legislative assembly first being obtained by resolution, which approval shall not be granted unless any water powers already acquired under this section have been resold or leased on terms satisfactory to the legislative assembly."

* * * * * * *

The act provides for expropriation powers, defines the manner in which they are to be exercised, provides for the payment of damages, and further provides:

"The lieutenant governor in council is hereby authorized to lease, sell, either by public auction or private contract, any such lands, rights, and privileges to any corporation desiring to utilize any such water power and convincing the lieutenant governor in council of its ability to develop and utilize the same for industrial purposes, upon such terms and conditions as to the development and utilization of the same as the lieutenant governor in council may prescribe, and it shall be lawful for the lieutenant governor in council, by letters patent, to incorporate a company to acquire any such water power, property, rights, and privileges; and the lieutenant governor in council may embody in such letters patent all necessary provisions for the acquiring and expropriation of such lands, interest in lands, rights, and privileges as he may deem necessary, and all the powers, rights, and privileges which shall be conferred on such company by such letters patent shall be as valid and effectual on such company as if the same had been conferred by act of the Legislature of New Brunswick."

MANITOBA, SASKATCHEWAN, ALBERTA, YUKON, AND NORTHWEST TERRITORIES.[1]

Section 35 of the Dominion lands act provides:

"Land required for the development of any water power shall be sold or leased only under regulations made by the governor in council."

"Subject to rights which exist or may be created under the irrigation act the governor in council may make regulations, (*a*) for the diversion, taking, or use of water for power purposes, and the granting of the right to divert, take, and use water for such purposes, provided that it shall be a condition of the diversion or taking of water that it shall be returned to the channel through which it should have flowed if there had been such diversion or taking in such manner as not to lessen the volume of water in the said channel; (*b*) for the construction on or through Dominion or other lands of sluices, races, dams, or other works necessary in connection with such diversion, taking, or use of water; (*c*) for the transmission, distribution, sale, and use of power and energy generated therefrom; (*d*) for the damming of and diversion of any stream, watercourse, lake, or other body of water for the purpose of storing water to augment or increase the flow of water (for the purpose of storing water) for power purposes during dry seasons; (*e*) for fixing the fees, charges, rents, royalties, or dues to be paid for the use of water for power purposes, and the rates to be charged for power or energy derived therefrom.

"Any person who under such regulations is authorized to divert, take, or use water for power purposes, or to construct works in connection with the diversion, taking, or use of water for such purposes shall, for the purposes of his undertaking, have the powers conferred by the railway act upon railway companies, including those for the acquisition and taking of the requisite lands, so far as such powers are applicable to the undertaking and are not inconsistent with the provisions of this act or the regulations thereunder—the provisions of the said railway act giving such powers being taken for the purposes of this section to refer to the undertaking of such person where in that act they refer to the railway of the railway company concerned.

"All maps, plans, and books of reference showing lands other than Crown land necessary to be acquired by any such person for right of way or other purposes in connection with his undertaking shall be signed and certified correct by a duly qualified Dominion land surveyor.

"All such maps, plans, and books of reference shall be prepared in duplicate, and one copy thereof shall be filed in the office of the minister at Ottawa, and the other shall be registered in the land title office for the registration district within which the lands affected are situated.

"The minister or such officer as he designates shall, in case of dispute, be the sole and final judge as to the area of land which may be taken by any person without the consent of the owner for any purpose in connection with any water-power undertaking."

DOMINION OF CANADA, OTTAWA.

[No. 35, sec.]

[Minister of the Interior.]

Regulations for the disposal of and use of water powers as prescribed under Dominion land acts; established by orders in council, 1908.

1. Under these regulations the word "works" shall be held to mean and include all sluices, races, dams, weirs, tunnels, pits, slides, flumes, machines fixed to the soil, buildings, and other structures for taking, diverting, and storing water for power purposes, or for development and developing water power and rendering the same available for use.

2. Every applicant for a license to take and use water for power purposes shall file with the minister of the interior a statement in duplicate setting forth:

(*a*) The name, address, and occupation of the applicant.

(*b*) The financial standing of the applicant so far as it relates to his ability to carry out the proposed works.

[1] The rivers and streams of these provinces and territories and including the Peace River Block of British Columbia are under the control of the Dominion Government. The Dominion forest reserves and parks also come under the same control.

(*c*) The character of the proposed works.

(*d*) The name, or if unnamed, a sufficient description of the river, lake, or other source from which water is proposed to be taken or diverted.

(*e*) The point of diversion.

(*f*) The heighth of the fall or rapid of such river, lake, or other source of water at high, medium, and low stages, with corresponding discharges of water per cent, reckoned approximately in cubic feet.

(*g*) A reasonably accurate description and the areas of the lands required in connection with the proposed works, such lands, if in surveyed territory, to be described by section, township, and range, or river or other lot, as the case may be, and a statement whether such lands are or are not Dominion lands.

(*h*) If such lands be not Dominion lands, then the applicant shall give the name of the registered owner in fee, and of any registered mortgagee or lessee thereof, and of any claimant in actual possession other than a registered owner, mortgagee, or lessee.

(*i*) The minimum and maximum amount of water power which the applicant proposes to develop, and the maximum amount of water which he desires for such purpose.

(*j*) Sketch of plan showing approximate locations of the proposed works.

(*k*) Elevations of headwater and tail-water of the nearest existing works, if any, below and above the proposed works.

(*l*) Particulars as to any water to be taken, diverted, or stored to the detriment of the operation of existing works, if any.

(*m*) Particulars as to any irrigation ditches or reservoirs or other works for irrigation within the meaning of the irrigation act, in use or in course of construction within the meaning of the irrigation act, or in use or in course of construction within the vicinity of the proposed works, and which might affect or be affected by the operation of the proposed works.

3. If the applicant be an incorporated company, the statement shall, in addition to the foregoing information, set forth:

(*a*) The name of the company.

(*b*) The names of the directors and the officers of the company and their places of residence.

(*c*) The head office of the company in Canada.

(*d*) The amount of subscribed and paid-up capital and the proposed method of raising further funds, if required, for the construction and operation of the proposed works.

(*e*) The copy of such parts of the charter or memorandum of association as authorize the application and proposed works.

4. If the applicant be a municipality, then, excluding the special information to be given by a company, the following shall be given:

(*a*) The location, area, and boundaries of the municipality.

(*b*) The approximate number of its inhabitants.

(*c*) The present estimated value of the property subject to taxation by such municipality.

5. The minister of the interior shall have the power to call for such other plans and descriptions, together with such measurements, specifications, levels, profiles, elevations, and other information as he may deem necessary, and the same shall be furnished by and at the expense of the applicant.

6. Upon receipt and consideration of the applicant, and information accompanying same, the minister of the interior may, if he approve of the proposed works, enter into an agreement with the applicant, in addition to usual conditions and covenants, shall contain clauses to provide as follows:

(*a*) For a time within which the proposed works shall be begun.

(*b*) For a stated minimum amount of expenditure to be made in connection with the works annually during the term of the agreement.

(*c*) For a stated amount of water power to be developed from the water applied for within a fixed period not exceeding five years.

(*d*) For summary cancellation of the agreement by the minister if any of the above conditions have not been complied with.

(*e*) For defining and allotting the areas of Dominion lands within which the applicant may construct and operate the proposed works; and if there be no Dominion lands available for such purpose then for defining and alloting the lands in regard to which the applicant may exercise the powers given under section 35, subsection 3, of the Dominion lands act.

(*f*) For granting a license to the applicant, upon fulfilment of the said agreement, to take, divert, and use for power purposes a stated maximum amount

of water, in accordance with the application and plans and specifications as approved by the minister; the term of such license to be 21 years at a fixed fee payable annually and such license to be renewable as provided for in these regulations.

(*g*) For granting a lease to the applicant of such Dominion lands as may be allotted under paragraph (*e*) of this section, and approved by the minister, such lease to be at a fixed rental for a term of 21 years running concurrently with the said license, and renewable in like manner, and as near as may be subject to all the terms and conditions thereof. When there are no Dominion lands available for such purpose, or when other lands are considered by the minister to be more suitable for such purpose, then the minister shall define such lands in regard to which the applicant may exercise the powers given under section 35, subsection 3, of the Dominion lands act.

7. During the construction of any works for the development of water power the minister of the interior, or any engineer appointed by him for that purpose, shall have free access to all parts of such works for the purpose of inspecting same and ascertaining if the construction thereof is in accordance with the plans and specifications approved of by the minister and whether the terms of agreement as provided for in the preceding section are being fulfilled.

8. Upon fulfillment by the applicant of all conditions of the said agreement, the minister of the interior shall grant to the applicant a license as agreed upon, and such license shall contain clauses to provide as follows:

(*a*) The term of the license shall be 21 years, renewable for three further consecutive terms of 21 years each, at a fixed fee payable annually, and to be readjusted at the beginning of each term, as hereinunder provided.

(*b*) At the expiry of each term of 21 years the governor in council may, on the recommendation of the minister, order and direct that the license and any lease granted in connection therewith be canceled: *Provided*, That the minister shall have given at least one year's notice to the licensee of intention so to cancel.

(*c*) If the licensee shall refuse to pay the license fee as readjusted by the governor in council, or as fixed by the arbitrators chosen as provided in paragraph (*e*) hereunder, then in such case the minister may renew the license at the former fee, or the governor in council may, on the recommendation of the minister, order and direct that the license and any lease issued in connection therewith be canceled.

(*d*) In either of the above cases, compensation shall be paid to the licensee as provided for in paragraph (*e*) under.

(*e*) On termination of the third renewal of such license, except in case of default on the part of the licensee in observance of any of the conditions thereof, or of any lease granted in connection therewith, compensation shall be paid for the works to the amount fixed by arbitration, one arbitrator to be appointed by the governor in council, the second by the licensee, and the third by the two so appointed; if the licensee fails to appoint an arbitrator within 10 days after being notified by the minister to make such appointment, or if the two arbitrators appointed by the governor in council and the licensee fail to agree upon a third arbitrator within 10 days after their appointment or within such further period as may be fixed by the minister in either such cases such arbitrator or third arbitrator, as the case may be, shall be appointed by the judge of the exchequer court of Canada. In fixing the amount of compensation, only the value of the actual and tangible works and of any lands held in fee in connection therewith shall be considered, and not the value of the rights and privileges granted, or the revenues, profits, or dividends, being or likely to be derived therefrom.

(*f*) The license shall state the maximum amount of water which the licensee may divert, store, and use for power purposes, and shall provide for the return to the stream, or other source of water, of the full amount so diverted.

(*g*) The licensee shall develop such power as, in the opinion of the minister, there shall be a public demand for, up to the full extent possible from the amount of water granted by the license.

(*h*) Upon a report being made by the minister of the interior to the governor in council that the licensee has not developed the amount of power for which there is a public demand, and which could be developed from the amount of power (water) granted by the license, the governor in council may order to be developed and rendered available for public use the additional amount of power for which there is, in the opinion of the minister, a public demand, up to the full extent possible from the amount of water granted by the license, and

within a period to be fixed by the minister, which period shall not be less than two years after the licensee or person in charge of existing works shall have been notified of such order, and in default of compliance with such order the governor in council may direct that the license, together with any lease, shall thereupon vest and become the property of the Crown without any compensation to the licensee.

(*i*) Upon a report being made by the minister of the interior to the governor in council that a greater amount of water power could be developed advantageously to the public interest from the same stream or other source of water from which the existing works derive power, and (first) that the existing works could be enlarged or added to for such purpose, then the governor in council may authorize the minister to offer the licensee the privilege of constructing and operating such enlarged or additional works at or in the vicinity of the existing works, and to grant such supplementary license as he may consider proper for such purpose, and if the licensee fail within six months thereafter to accept such offer, and in good faith to begin and carry on to completion such enlarged or additional works, and to complete same in accordance with plans and specifications approved of by the minister, and within a fixed period not to exceed five years, and upon like conditions as the existing works were begun and completed; or (second) if the minister shall report to the governor in council that the existing works, owing to their location or construction, can not advantageously be enlarged or added to in order to develop further power sufficiently to meet the probable demand, or would be a hindrance to other works contemplated for such purpose; or (third) that the existing works can not, or will not, be any longer advantageously operated owing to the exercise of rights existing or created under the irrigation act; then in every such case the governor in council may order and direct that the license shall be canceled, and the existing works shall thereupon vest in and become the property of the Crown: *Provided always*, That in every such case compensation shall be paid to the licensee as provided for in paragraph (*e*) of section 8 of these regulations, together with a bonus, apportioned as follows:

(1) If the works have been in operation less than 5 years, a 30 per cent bonus upon the value of the works.

(2) If in operation more than 5 and less than 10 years, a 25 per cent bonus.

(3) If in operation more than 10 and less than 15 years, a 20 per cent bonus.

(4) If in operation more than 15 and less than 20 years, a 15 per cent bonus.

(5) If in operation 20 years or more, a 10 per cent bonus.

(*j*) That the license shall not be transferable without the written consent of the minister, and that if the licensee fail to keep and observe all or any of the conditions of the license, or any renewal thereof, or of any lease to be issued in connection therewith, then the license, together with such lease, shall in every such case be subject to cancellation by the exchequer court on application of the Crown.

(*k*) That a schedule of rates and prices to be charged to the public for the use of power shall first be submitted by the licensee to the Board of Railway Commissioners of Canada for adjustment and approval before being put into effect, and that no rates or prices for power shall be legal or enforceable until such schedule has been so adjusted and approved, nor if they shall exceed the amount fixed by such schedule; and that such schedule shall be readjusted and approved by the board every seven years during the term of the lease and license, and all renewals thereof.

(*l*) That for the purpose of ascertaining the quantity of power actually developed, or capable of being developed, from the amount of water granted by such license, the minister, or any engineer appointed by him for that purpose, shall have free access to all parts of the works, and to all books, plans, or records in connection therewith, bearing on the quantity of power developed, and may make measurements, take observations, and do such other things as he may consider necessary or expedient for such purpose, and the findings of the minister, or such engineer, thereon shall be conclusive and binding upon the licensee.

(*m*) For the proper provision, as required by law, for the passage of logs and timber down the stream or other waterway affected by the works.

(*n*) For the erection and maintenance by the licensee of a durable and efficient fishway in the stream or other waterway affected by the works when so required by the proper officer or authority in that behalf.

(*o*) That the licensee shall have no right to any water beyond the amount stated in the license.

(*p*) For the indemnifying of the Crown against all actions, claims, or demands against it by reason of anything done by the licensee in the exercise or purported exercise of the rights and privileges granted under the lease or license.

9. The agreement and licenses to be issued hereunder shall, subject always to the provisions of these regulations, be in such form and contain such provisions as the minister may from time to time determine.

10. If at any time it is proposed by the applicant or the licensee to divert water from any lake or body of water for storage purposes, or to dam same in order to augment the flow of water in any stream from which water power is to be developed, the applicant or licensee shall, in addition to other information required under these regulations, file plans as follows:

(*a*) A general plan in duplicate, on tracing linen, showing the location of such lake or other body of water, and the lands to be submerged or otherwise affected, and contour lines showing the water level at high and low stages, and the level to which it is proposed to raise such water for storage, and the estimated storage capacity of such lake or other body of water.

(*b*) A plan in duplicate, from actual survey by a Dominion land surveyor, and certified to by him, showing the lands to be submerged or otherwise affected by the proposed storage, the name of the registered owner in fee of such lands, and of any registered mortgagee or lessee thereof, and of any claimant in actual possession other than a registered owner, mortgagee, or lessee.

(*c*) A detail plan in duplicate, on tracing linen, showing all dams and other works proposed to be constructed in connection with such storage.

11. When the plans for such storage have been approved of by the minister of the interior, provision for same shall be made in the agreement for a license, or in the license itself, or in a supplementary license to be issued for such purpose, upon such terms and conditions as may appear to the minister reasonable or expedient in the circumstances of each case, and subject to these regulations.

QUEENSLAND.

[Queensland Government Gazette, No. 18, Monday, 9, 1911.]

No. 25.

AN ACT To declare rights in natural water and the property in the bed and banks containing the same, and to make better provision for the conservation and utilization of water for industrial irrigation and other purposes, and for the construction, maintenance, and management of works for such purposes.

Be it enacted by the Kings' Most Excellent Majesty, by and with the advice of and consent of the Legislative Council and Legislative Assembly of Queensland in Parliament assembled, etc:

Rights in natural water.—The right to the use and flow and to the control of the water at any time in (*a*) any watercourse; and (*b*) in any lake; and (*c*) in any spring, well, and subterrean source of supply; shall vest in the Crown for all purposes whatsoever, subject only to the restrictions hereinafter provided and until appropriated under the sanction of this act or of some existing or future act.

Wherever the water of any watercourse or lake has been permanently diverted or continuously and exclusively taken and used by the owner or by the successive owners of any parcel of land alienated from the Crown before the commencement of this act for purposes and uses other than in domestic and ordinary use, watering stock, factory use, water or electric power, and irrigation as in the sections mentioned, such owner may, at any time within 12 months after the commencement of this act, apply to the minister for a special license to continue in like manner to divert or take and use such water for a further period of 10 years from the commencement of this act.

* * * * * * *

* * * A special license shall be subject to such special conditions and provisions as the governor in council shall determine, and to the provisions of this act so far as the same are applicable thereto, and to the further condition that, notwithstanding that such special license is expressed to be for a period of 10 years, it may be determined as hereinafter prescribed.

The licensee under such license may divert, take, and use water to the extent and in respect of the land and in the manner specified in such license. * * *

The minister may, at any time and from time to time, by his officers and agents, enter upon any land and make surveys and do such other acts as appear necessary for the purpose of acquiring out the purposes of this act. * * *

Power to levy rates.—* * * from time to time, make and levy rates, to be called "water supply rates," upon the lands comprised in the areas, for the purpose of raising an amount sufficient to make any payment to the treasurer for principal moneys or interest or rent, or other payments required to be made by law hereafter, together with all costs, charges, and expenses in and about the management of the business of the board and the administration of this act. * * *

* * * The minister may, subject to such conditions as he thinks fit, grant to any person or company the right to use the water from any watercourse, waterfall, lake, or well outside a gold field or mineral field for the purpose of; (*a*) generating electricity for lighting, to be used for the purpose of and in connection with the business of such person or company; and (*b*) for driving any machinery used for ay agricultural, industrial, or manufacturing purpose other than the generation or storage of electicity. * * *

The governor in council may, from time to time, make regulations providing for all or any purposes whether general or to meet particular cases that may be convenient for the administration of this act or that may be necessary or expedient to carry out the objects and purposes of this act, and where there may be in this act no provision or no sufficient provision in respect to any matters or thing necessary or expedient to give full effect to this act, providing for and supplying such omission or insufficiency, and without prejudice to the foregoing powers, providing for all or any of the matters following; that is to say, prescribing and defining manner of doing or performing any act or thing under or for the purposes of this act, and the time when or within which it shall be done or performed; prescribing forms of books, documents, instruments, petitions, applications, and writings, and the conditions, stipulations, and writings, and exceptions that shall be inserted or that shall be implied in the lease, license, and other instrument; prescribing the mode of proof of matters required to be proved under or for the purposes of this act, and for facilitating such proof * * * prescribing the fees, rates, and charges payable in respect to the matters for which by this act they may be imposed as hereinbefore mentioned, and the levying and collecting the same. * * *

Any person who offends against any regulation shall, save as in this act otherwise provided, be liable to a penalty of not exceeding £50.

Nothing in this act shall affect the right to the use of water under the mining act of 1898: *Provided*, That water rights for the generation of electric power for any other purpose than the applicant's own use shall not be granted under that act.

New South Wales.

Anno Tertio Georgii V Regis.

Act No. 44, 1912.—An act to consolidate the acts relating to water rights, water and drainage, drainage promotion, and artesian wells. [Assented to 26th November, 1912.]

Be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:

PART I.—PRELIMINARY.

1. This act may be cited as the "water act, 1912," and is divided into parts and divisions as follows:

Part I.—Preliminary, sections 1–4.
Part II.—Water rights and works.
- Division 1.—Interpretation, section 5.
- Division 2.—Rights of the Crown and of riparian proprietors, sections 6–9.
- Division 3.—Licenses, sections 10–18.
- Division 4.—Works constructed by the Crown, sections 19, 20.
- Division 5.—Miscellaneous, sections 21–27.

Part III.—Water and drainage.
Division 1.—Interpretation and general, sections 28–30.
Division 2.—Constitution of trusts, construction of works and transfer to trust, sections 31–38.
Division 3.—Alterations of boundaries and extension of works, sections 39–41.
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2. The acts in schedule I of this act mentioned are, to the extent therein expressed, hereby repealed.

3. (1) Any board constituted under the provisions of any act hereby repealed, and being in existence at the time of the passing of this act, shall be deemed to have been constituted under the provisions of this act.

(2) All persons appointed, employed, or elected under the provisions of any act hereby repealed, and holding office at the time of the passing of this act, shall be deemed to have been appointed, employed, or elected under the provisions of this act.

(3) All proclamations, regulations, and by-laws made under the provisions of any act hereby repealed, and being in force at the time of the passing of this act, shall be deemed to have been made under the provisions of this act.

(4) All licenses granted under the provisions of any act hereby repealed, and being in force at the time of the passing of this act, shall be deemed to have been granted under the provisions of this act.

(5) All fees, rates, charges, and expenses payable, and all penalties incurred, under the provisions of any act hereby repealed, shall be deemed to be payable and to have been incurred respectively under the corresponding provisions of this act.

(6) Any matter or thing duly done under the authority of any act hereby repealed shall be deemed to have been duly done under the authority of this act.

4. In this act, and in any regulations made thereunder, unless the context or subject matter otherwise indicates or requires—

"Crown lands" has the meaning given to that expression in the Crown lands act of 1884.

"Justice" means justice of the peace.

"Land district" means land district proclaimed under the Crown lands acts of 1884 or any act amending the same.

"Prescribed" means prescribed by any part of this act in which the expression occurs, or by any regulations under that part.

"Western division" has the meaning given to that expression in the Crown lands act of 1884.

PART II.—WATER RIGHTS AND WORKS.

DIVISION 1.—*Interpretation.*

5. In this part, and in any regulations made thereunder, unless the context or subject matter otherwise indicates or requires—

"Drainage" includes the draining of flood or other waters of rivers or lakes by means of any work; and "drainage work" includes a work constructed or used for the above purposes.

"Lake" includes a lagoon, swamp, or other collection of still water, whether permanent or temporary, not being water contained in an artificial work.

"Local land board" means the land board for the district in which a work is situated, or if the work be situated in moe than orne land board district, such land board as the minister may name.

"Licensed work" means a work in respect of which a license is held under this part.

"Occupier" means person in actual occupation.

"River" includes any stream of water, whether perennial or intermittent, flowing in a natural channel, and any affluent, confluent, branch, or other stream into or from which the river flows.

"Water supply" includes a supply for the carrying on of any industrial operation.

"Work" includes any dam, lock reservoir, weir, flume, race, channel (whether an artificial channel or a natural channel artificially improved), any cutting, tunnel, pipe, sewer, and any machinery and appliances.

"Work to which this part extends" means work connected with any river or lake flowing through or past or situate within the land of two or more occupiers, or with any water flowing in, to, or from, or being in any river or lake flowing or situate as aforesaid, whether such work be for water conservation, irrigation, water supply, or drainage, and whether such work be constructed before or after the commencement of this act.

DIVISION 2.—*Rights of the Crown and of riparian proprietors.*

6. (1) The right to the use and flow and to the control of the water in all rivers and lakes which flow through or past or are situate within the land of two or more occupiers, and of the water contained in or conserved by any works to which this part extends, shall, subject only to the restrictions hereinafter mentioned, vest in the Crown. And in the exercise of that right the crown, by its officers and servants, may enter any land and take such measures as may be thought fit, or as may be prescribed for the conservation and supply of such water as aforesaid and its more equal distribution and beneficial use, and its protection from pollution, and for preventing the unauthorized obstruction of rivers.

For the purposes of this subsection "occupier" includes the Crown.

(2) The said right shall be subject to the following restrictions:

(*a*) It shall not be exercised in contravention of any right conferred on and lawfully exercisable by any person or board by or under the authority of any act dealing with mining or of any public or private statute or of any license granted by the Crown.

(*b*) It shall be subject to the rights hereinafter mentioned of the occupiers of land on the banks of rivers or lakes.

(*c*) It shall be subject to the rights of the holders of licenses under this part.

7. The occupier of land on the bank of a river or lake shall have the right to use the water then being in the river or lake for domestic purposes, and for watering cattle or other stock, or for gardens not exceeding 5 acres in extent used in connection with a dwelling house, and it shall not be necessary for the occupier to apply for or obtain a license for any work used solely in respect of that right.

8. Where the Crown is, by its officers, servants, or agents, in occupation of a work to which this part extends, constructed by the Crown at any time, the Crown shall, subject to the provisions of this part, have the quiet enjoyment and sole and exclusive use of the said work as against all persons whomsoever, and shall be entitled to make such charges for the supply or use of the water conserved thereby as may be prescribed.

9. The right of the occupier of any work to which this part extends—(*a*) to use the work for the purpose of water conservation, irrigation, or water supply or drainage; or (*b*) to take, use, or dispose of the water contained therein, conserved, or obtained thereby, shall be subject to the provisions of this part.

DIVISION 3.—*Licenses.*

10. Any occupier of land whereon any work to which this part extends is constructed or used, or is proposed to be constructed or used, for the purpose of water conservation, irrigation, water supply, or drainage, may apply to the person, and in the form prescribed, for a license to construct and use the said work, and to take, use and dispose of the water contained therein, conserved, or obtained thereby.

11. (1) On application being made for a license under the last section, the minister shall cause to be advertised, once in the Gazette and once in a public newspaper circulating in the neighborhood where the land is situate, a notice of the receipt of the application, stating that on a day therein named, and at a place therein named within the land district in which the land is situate, a public inquiry will be held as to the desirability of granting the application.

(2) The inquiry shall be held by the local land board by the direction of the minister, or by some person authorized by the minister in that behalf, and the local land board or the person so authorized shall report in writing to the minister.

(3) All persons whose interests appear to be affected by the granting of the application shall be permitted to attend at the inquiry and be heard in support of or in opposition to the granting of the application.

(4) Where any inquiry is held under this section by a person authorized by the minister as aforesaid, the applicant or any person so interested as aforesaid shall have a right of appeal from the report of such person to the local land board.

12. (1) The report of the person holding the inquiry by the authority of the minister, or of the local land board or land court on appeal, shall be published in the Gazette within the prescribed time after presentation thereof to the minister, and the minister shall, after the expiration of 30 days from such publication, where the report recommends the issue of a license, issue a license to the applicant in the prescribed form, subject to such terms, limitations, and conditions, if any, as may be recommended in such report.

(2) Provided that (*a*) no license shall be issued under this section pending any appeal or reference; and (*b*) a license shall be issued only upon payment of a fee calculated in the manner and according to the scale set forth in Schedule II of this act; and (*c*) before granting a license the minister may require such alterations to be made in or in connection with the work, or in the plans and specifications of the same, as may be recommended by the said report.

13. If two or more occupiers desire to construct any work to which this part extends, they may apply for a license to construct and use the said work in the manner prescribed for a single occupier, and such application will be dealt with as the application of a single occupier.

14. The license, if granted, shall in every case, except in the case of dams and weirs included in Class IV and Schedule II, be granted for a period not exceeding 10 years, and shall (subject to the provisions of this part with regard to the renewal of licenses, and subject to such limitations and conditions as the minister may think fit to make) be renewed by the minister from time to time on the application of the person holding the license, on the payment of a fee calculated in the manner and according to the scale set forth in Schedule II.

Provided that no renewal shall be for a longer period than 10 years.

15. Except in cases where a single license fee may be paid for combined works, as mentioned in Schedule II to this act, a separate application for a license may be required in respect of each work; and the determination as to what work may be included in each license shall rest with the minister.

16. A license shall be deemed to be held by and shall operate and enure for the benefit of the lawful occupier for the time being of the land whereon the work is constructed or is proposed to be constructed.

17. Subject to the provisions of this part, or the regulations hereunder, the person holding a license under this part in respect of any work shall have absolutely, during his lawful occupation of the work, so far only as the said work is constructed or maintained on the land occupied by him, the quiet enjoyment and the sole and exclusive use of the work as against all other persons whomsoever, including the Crown, and shall be entitled to take, use, and dispose of any water contained therein or conserved thereby.

18. If, during the time that a license under this part is in force in respect of a work, alterations have been made in or in connection with the work which materially and prejudicially affect the quantity or quality of water flowing in, to, or from, or being in any river or lake, the person who has made the alterations shall be liable to a penalty not exceeding £100, and, in addition to the imposition of the said penalty, the license may, by notice in the Gazette, be canceled and annulled: *Provided*, That the holder of any license may, during the currency thereof, apply for an amended license, allowing alterations in the work as originally licensed, and any such application shall be dealt with as hereinafter provided in respect of applications for a license in the first in-

stance: *Provided also*, That the operations herein referred to shall not apply to any repairs or alterations rendered necessary for maintenance or any sudden or unforseen emergency.

DIVISION 4.—*Works constructed by the Crown.*

19. (1) The governor may notify, by proclamation in the Gazette, proposals for dams, locks, weirs, channels, or drainage works to be constructed by the Crown, together with an estimate of the cost of the same.

(2) After such notification, the minister may refer any such proposal to the land board for the land district within which the proposed works would be, or to a land board for a land district adjacent to the site of the proposed work; and such land board shall thereupon forward a report to the minister describing the land which, in the opinion of the boad, should be included in any water or drainage district to be constituted in respect of the said work.

(3) Upon receipt of such report the minister may, by notification in the Gazette, declare the land so described to be a district within which water or drainage charges may be levied.

(4) If, after such last-mentioned notification, a petition in favor of the proposal of the minister is presented to the land board signed by persons—(a) who constitute a two-thirds majority of the total number of those occupying land within the district; and (b) who occupy an area exceeding two-thirds of the total area within the district, the board may report to the minister recommending that the proposal be carried out.

(5) Thirty days after the receipt of such report to that effect the minister may carry out the work out of funds legally available for the purpose, unless an appeal to the land court affecting the same is pending, in which case he shall not proceed with the work until the appeal is decided.

Provided that any such work shall be subject to the public works act, 1900.

20. (1) Upon the work being completed, the minister may direct the land board to assess in each and every case the water and drainage charges to be paid, which charges shall not exceed the yearly value to each occupier of the direct benefit accruing to his land from the work: *Provided*, That the total of such charges shall not exceed £6 per centum of the cost to the Crown of the construction of such work.

(2) On the petition of persons liable in the aggregate to pay one-quarter of the total amount of the charges, or at the request of the minister, the land board shall make a fresh assessment of the charges to be paid.

DIVISION 5.—*Miscellaneous.*

21. Any person who maliciously cuts, breaks, or destroys, or damages with intent to destroy or render less useful any licensed work, or any work to which this part extends, constructed by the Crown, shall be liable on indictment to imprisonment, with or without hard labor, for a term not exceeding five years.

22. (1) For the purposes of this part the minister, or any person authorized by him, may enter on any land and take levels and make surveys and marks, and fix pegs and stakes, and inspect any works.

(2) Any person who removes, injures, or interferes with any marks made, or pegs or stakes fixed as aforesaid, shall be liable to a penalty not exceeding £50, or to imprisonment for a term not exceeding three months.

23. Any person who obstructs or hinders any person while performing any duty which he is authorized by this part, or by any regulation made thereunder, to perform, shall be liable to a penalty not exceeding £50, or to imprisonment for a term not exceeding three months.

24. Fees and charges payable under and penalties imposed by this part, or any regulation made thereunder, may be recovered before, and charges in respect of offenses under this part (not being offenses made punishable on indictment) may be heard and determined by a police or stipendiary magistrate, or any two justices in petty sessions.

25. Any report, recommendation, or decision of a land board under this part shall be subject to an appeal or reference to the land appeal court in the manner prescribed by the Crown lands acts, or any regulations made thereunder. The decision of the said court shall be final.

26. All contributions, fees, and charges payable under this part shall be paid at the times and in the manner prescribed into the consolidated revenue fund.

27. (1) The governor may make regulations prescribing the forms of licenses and of renewals of the same, and for carrying out the provisions of this part; and may, in such regulations, impose any penalty not exceeding £50 for each breach of the same, or where the breach was a continuing one, not exceeding £5 for every day during which the breach continues.

(2) A copy of such regulations shall be laid before the legislative council and legislative assembly without delay.

PART III—WATER AND DRAINAGE.

DIVISION 1.—*Interpretation and general.*

28. In this part—

"Board" means board constituted under this part.

"Minister" means minister for public works.

"Occupier" means person in actual possession.

"Owner" means owner of any estate of freehold in land, and includes a mortgagee in possession.

"Ratepayer" means person paying rates in respect of land within a trust district.

"State work" means any work of water supply, water conservation, or irrigation, or of drainage, or for the prevention of floods or the control of flood waters, proclaimed as such by the governor.

"Trust" means trust constituted under this part.

"Trustee" means member of a trust.

"Trust district" means area over which a trust has jurisdiction under this part.

"Works" includes any natural or artificial conduit, well, appliance, machinery, or structure pertaining to or used in connection with a trust.

29. Nothing in Part II of this act shall (*a*) affect the exercise of the powers conferred by this part in relation to a river or lake as defined in Part II; or (*b*) affect the right of a trust to fix and levy rates under the provisions of this part.

30. There shall be a board, consisting of the under secretary of the department of public works, the chief engineer for rivers, water supply, and drainage, the executive engineer appointed by the governor to administer this part, and such officer or officers of the department of public works as the governor may appoint, and including, where any work is situate in the western division, the western land board constituted under the western lands act of 1901.

DIVISION 2.—*Constitution of trusts, construction of works, and transfer to trust.*

31. In respect of any works of water conservation the minister may, and in respect of any work of water supply, irrigation, or drainage, or for the prevention of floods or the control of flood waters, the minister shall notify in the Gazette and in some newspaper circulating in the district affected by such works, proposals for the construction of such works, and the constitution of a trust for maintaining, administering, and extending such works.

32. Any such proposal shall contain—

(*a*) A description of the purpose for which it is proposed to constitute the trust.

(*b*) A plan and description of the works, and of the land, whether covered with water or not, proposed to be taken or acquired for the purposes of such works, and of their cost or estimated cost.

(*c*) The rate of interest, which shall not exceed 4 per cent per annum, and shall be paid by the trust on the actual cost or on the estimated cost, plus 10 per cent, whichever is the lesser sum.

(*d*) The charges to be paid by the trust for water to be supplied by the Crown, and the conditions of such supply.

(*e*) The maximum rate which may be assessed by the trust.

(*f*) A description of the trust district.

(*g*) The number of trustees, being either three or five.

(*h*) The number of years within which the cost of the work shall be extinguished by a sinking fund.

33. (1) If, within eight weeks after such notification, a petition is presented to the minister, signed by at least one-third in number of the occupiers of Crown land, including homestead selectors, conditional lessees, and settlement lessees,

and owners of other land within the proposed trust district, objecting to the proposal, he shall refer the proposal to the board for inquiry and report.

(2) For the purpose of any such inquiry the board shall have the power to subpœna witnesses and take evidence on oath.

(3) Every person who, when required by the board, attends as a witness shall be allowed such expenses as would be allowed to a witness attending on subpœna on the trial of an action in the district court, and, in case of dispute as to the amount to be allowed, the same shall be referred to the registrar of the nearest district court, who, on request under the hand of the chairman of the board, shall ascertain and certify the proper amount of such expenses.

34. (1) If within the said period no such petition is received, or if the board reports in favor of the proposal, with or without modifications, the governor may constitute the trust with such modifications of the proposal as the board may recommend, or where no reference is made to the board with such modifications as the minister may think fit.

(2) The constitution of the trust shall be notified by the minister in the Gazette.

35. Upon such notification the conditions of the proposal, with such modifications (if any) as aforesaid, shall be binding on the trust and on the Crown, and the minister may, out of the funds raised under this part, or out of the revenue account or the loan account of the public-works fund, carry out the works described in the proposal.

36. (1) The minister may notify proposals for the constitution of a trust in respect of any work constructed and completed by him before or at the commencement of the act No. 59, 1906, and a trust may be constituted in respect of the same. Thereupon the trust shall take over the administration and management of the work, and the provisions of this part shall apply thereto, and the interest and charges payable by the trust shall commence to run: *Provided*, That no trust shall be constituted under this subsection for work in respect of which charges are payable under Part II or Part V of this act, unless with the consent in writing of the persons—

(*a*) Who constitute a two-thirds majority of the total number of persons liable for such charges; and

(*b*) Who are liable for two-thirds in amount of such charges.

(2) On the constitution of a trust under this section for any work the provisions of this or any act, other than the provisions of this part, shall cease to apply thereto.

37. The completion of any works in respect of which a trust is constituted under this part shall be notified in the Gazette, and thereupon the trust shall take over the same, and the administration and management thereof, upon the terms and conditions prescribed, and shall exercise all the powers contained in this part except such as are conferred solely upon the minister, and the interest and charges payable by the trust shall commence to run: *Provided*, That the cost of such work may be determined by the minister, and notified in the Gazette, at any time after the work has been completed and taken over as aforesaid; and this proviso shall apply whether the work was completed before or after the commencement of this act.

38. Where any work in respect of which a trust is constituted is, in the opinion of the minister, so far constructed as to be of use to the trust, that fact may be notified in the Gazette, and thereupon the trust shall take over same, and the administration and management thereof, upon the terms and conditions prescribed, and shall exercise all the powers and discharge all the duties conferred and imposed by this part in respect of works completed and taken over by a trust, except such powers as are conferred solely on the minister.

DIVISION 3.—*Alteration of boundaries and extension of works.*

39. If two-thirds in number of the occupiers of Crown lands, including homestead selectors, conditional lessees, and settlement lessees, and owners of other lands within any area, sign and forward to the minister a petition that such area be included in a trust district, the minister shall refer the proposed alteration to the board, who, after giving the trust an opportunity of expressing their opinion, shall report to the minister whether, in the opinion of the board, the petition ought to be refused or granted, with or without modification, whereupon the minister may, by notification in the Gazette, alter the boundaries of such district accordingly, or may refuse the petition.

40. Where the minister thinks it desirable that any works in respect of which a trust is constituted, or is proposed to be constituted, should be constructed through the district of another trust, he may, on or after the constitution of the first-mentioned trust, and on giving notice to the last-mentioned trust, construct such works and amend the boundaries of the respective districts so as to include the said works and such lands adjacent thereto as he may think desirable in the district of the trust for which the works have been or are proposed to be constructed. Such amendment of boundaries shall be notified in the Gazette.

41. If the trustees, by request in writing, desire the minister to improve or extend any works under their charge or increase the quantity of water supplied, the minister may prepare an estimate of the cost of the proposed work and the interest thereon payable by the trust, and a statement of the additional charge to be paid by the trust in respect of the increase of the quantity of water supplied. Such estimate and statement shall be supplied to the trustees.

Upon the receipt from the trustees of an intimation that the estimate and statement have been approved by a special general meeting of the voters in the trust, of which not less than 14 days' notice shall be given in the prescribed manner, the minister may proceed with the construction of the proposed work, or may increase the quantity of water supplied.

On the completion of the work, or upon the increase of the quantity of water, a notification shall be sent to the trustees, and shall be published in the Gazette, directing that, with the governor's approval, the interest on the cost of such work and the charges for the increase of water supplied shall be paid by the trust.

Such interest and charges shall commence to run from the date of such notification, and such interest shall be calculated on a sum not exceeding the estimated cost, plus 10 per cent.

DIVISION 4.—*Appointment and election of trustees.*

42. (1) After the constitution of the trust, but before the completion of the works (if any) proposed to be constructed, the minister shall, by notice in the Gazette, appoint trustees and direct the first election of trustees in pursuance of this part.

(2) Where the trust district consists wholly of land acquired under the Closer settlement act, 1901, or any act amending the same, or unoccupied Crown lands, all the trustees shall be appointed by the minister, and shall, subject to the provisions of this part, hold office until half the land in the district is occupied by persons who are liable to pay rates to the trust.

Thereafter, and in other cases where the number of the trustees is three, one shall be appointed by the minister and two shall be elected; but where the number of the trustees is five, two shall be appointed by the minister and the rest shall be elected: *Provided*, That where the trust district is in the western division the western lands board shall be sole trustees in lieu of the trustee or trustees hereinbefore mentioned.

43. Elected trustees shall be elected for three years, and shall hold office until their successors are elected.

44. For the purpose of the first election of trustees the minister shall prepare a roll of voters, placing on the roll the names of the persons who, in his opinion, will be liable to pay rates to the trust, and the persons whose names are on such roll, and no others, shall be qualified to vote at the first election: *Provided*, That when any such person is not a resident in the trust district, but the property in respect of which he would, in the opinion of the minister, be liable to pay rates to the trust is administered under a power of attorney by a person so resident, the name of the last-mentioned person shall be placed on the roll in lieu of the name of the first-mentioned person.

45. For the purpose of any subsequent election of trustee a roll of voters, containing the names of the persons who are liable to pay rates to the trust, shall be prepared by the trustees, and revised in the prescribed manner by the police magistrate having jurisdiction in the district before whom any person aggrieved by the omission or additon of the name of any person may appear and be heard, and the persons whose names are on such roll, and no others, shall be entitled to vote at any such election: *Provided*, That where any such person is not a resident in the trust district, but the property in respect of which he is liable to pay rates to the trust is administered under a power of

attorney by a person so resident, the name of the last-mentioned person shall be placed on the roll in lieu of the name of the first-mentioned person.

46. Persons on the roll shall be entitled to vote in manner following, that is to say:

(*a*) In the case of a trust placed in charge of drainage work or irrigation works, or works for the prevention of floods or the control of flood waters, the occupier of an area of land not exceeding 50 acres shall be entitled to one vote; of an area exceeding 50 acres, but not exceeding 300 acres, to two votes; and of an area exceeding 300 acres, to three votes.

(*b*) In the case of a trust in charge of water supplies for domestic and stock purposes, the occupier of an area of land not exceeding 2,000 acres shall have one vote; the occupier of more than 2,000 acres, but not more than 10,000 acres two votes; and the occupier of more than 10,000 acres, three votes.

(2) For the purpose of this section a person on the roll as administering a property under a power of attorney shall be deemed the occupier of the area of land included in such property.

47. Any person entitled to vote at the election of trustees may be elected as trustee. But no person who has been convicted of any criminal offense shall be capable of being appointed or elected or to act as a trustee, and where a trustee becomes incapable as aforesaid his office shall become vacant.

48. In the first election of trustees the minister shall appoint a returning officer, and may, for any succeeding election, appoint a returning officer, or delegate this power to the trustees.

49. The minister shall appoint the date of any election and the polling places, and shall notify the same in the Gazette and a local newspaper.

50. The mode of election of trustees shall be as prescribed.

51. Any vacancy caused by the death, resignation, or incapacity of a trustee shall be filled by appointment or election, as the case may be.

DIVISION 5.—*Powers and duties of trustees.*

52. The trustees shall be charged with the duty of maintaining and administering the works of water supply, water conservation, irrigation, and drainage, and for the prevention of floods and the control of flood waters, mentioned in the notification constituting the trust, or thereafter constructed within the trust district.

53. Trustees shall have the following duties and powers:

(*a*) They shall maintain in a state of efficiency the works under their charge.

(*b*) They shall fix and levy rates to provide for the maintenance and management of such works, and for interest, charges, and sinking fund.

(*c*) They shall keep proper accounts of all moneys received and paid.

(*d*) They shall pay to the treasury, at such times as may be fixed by the minister, the interest and charges payable by them, and make due provision for a sinking fund, and all sums received on account of any such sinking fund shall be carried by the treasurer to a special account, to be entitled "The water and drainage loan redemption fund," and all other sums to the consolidated revenue fund.

(*e*) They may appoint, with the sanction of the minister, such officers or servants as may be required.

54. In the exercise and discharge of their powers and duties the trustees, by themselves or their officers, may enter any land within the trust district and make any inspection or survey they may deem necessary, and effect repairs or alterations to any works, but in so doing shall avoid, as far as practicable, causing any loss, injury, or damage. They shall not be responsible for any loss, injury, or damage caused by them, unless claim in writing be made within three months thereafter.

55. (1) For the purpose of providing money for exercising their powers and performing their duties under this part, the trustees may fix and levy rates upon the whole of the lands within the trust district as follows:

(*a*) In connection with the supply of water for stock purposes, a rate per acre of the land benefited by the works shall be fixed, and the rate may vary in proportion to the benefit received as aforesaid. When water is supplied down a natural channel, a rate per mile of the lands benefited as aforesaid, measured according to the frontage to the channel, may be fixed, and the rate may vary in proportion to the benefit received.

(*b*) In connection with the supply of water for domestic purposes, a rate for each separate tenement in the trust district shall be fixed, and the rate may vary in proportion to the benefit received.

(*c*) In the case of drainage, or works for the prevention of floods or the control of flood waters, a rate per acre of the land benefited by the works shall be fixed; and this rate may vary according to the distance of the land from drains or works for the prevention of floods or the control of flood waters, and in proportion to the benefit received as aforesaid.

(*d*) In the case of irrigation, a rate per acre on the whole of the irrigable land within the trust district shall be levied, whereupon the ratepayer shall be entitled to a proportion of the water to be fixed by the trustees, either by measure or according to the area irrigated, or which, in the opinion of the trustees, should be irrigated.

(*e*) In all cases, not otherwise in this section provided for, a rate per acre of the land benefited, directly or indirectly, by the works shall be fixed yearly, and shall, as far as practicable, be in proportion to the benefit received as aforesaid.

(*f*) In the case of a supply for more than one purpose, separate rates may be fixed, calculated on the basis set out for each such purpose.

(2) All such rates shall be payable by the occupiers of the lands.

(3) Any occupier aggrieved by the amount at which he is rated may appeal to the police magistrate having jurisdiction in the district, who shall hear and determine the matter and may confirm or vary such amount.

(4) If in any such appeal the police magistrate reduces the amount at which the appellant is rated, he shall increase the other ratings of the trust in such amounts as he thinks just where he considers such course necessary in order to secure that the total amount to be received by the trust for rates shall not be diminished by such reduction.

56. The trustees shall have power to sell water by measure to any ratepayer in addition to the quantity to which he is entitled by payment of rates.

57. When a trust under this part has any surplus water which is not required for the purpose for which the trust was constituted, the trust may sell such water, by measure or otherwise, to any ratepayer for any other purpose.

58. The trustees shall submit to the minister once every year and at such other times as the minister may direct an audited statement of the accounts of the trust. The minister may, if in his opinion such audited statement is defective or unsatisfactory, appoint an auditor to prepare a proper statement of accounts, at the cost of the trust.

DIVISION 6.—*Various other powers.*

59. In the event of any delay in the election of trustees or in the event of any default by trustees in the discharge of their duties under this part or the regulations made thereunder (*a*) the minister may assume all or any of the powers by this part conferred on trustees; and (*b*) the governor may, if in his opinion sufficient cause exists, dissolve a trust, remove from office trustees, and appoint and direct the election of other trustees, or appoint a manager of the affairs of a trust.

60. The minister, by himself or his officers, may at any time enter any part of a trust district and make an inspection or survey of the works in charge of the trust and may inspect the records and accounts of the trustees.

If upon such inspection the minister is of opinion that any of such works are not kept in repair and efficient working order he may cause such repairs as he may think necessary to be made at the cost of the trust, and for the purpose of effecting such repairs he shall have the powers of the trustees.

61. (1) The minister or trustees for the purposes of this part may construct and maintain and repair any conduit through any land, street, or road.

Any ratepayer of a trust may, with the approval of the trustees, for the purpose of draining his land, cut and make and maintain and repair drains through any adjacent or neighboring land:

(2) *Provided*, That the trustees or ratepayer shall make full compensation for any damage occasioned by cutting and making such drains; and such compensation, estimated at one-fifth part above the value of the property affected, shall be assessed by the board, and when so assessed shall be recoverable in any court of competent jurisdiction.

62. On notice, in the prescribed form and under the hand of the minister, being served (*a*) personally or by post on the owner or occupier or person in

apparent occupation of any land through which it is proposed to construct a channel or embankment under the authority of this part; or (*b*) if the land is unoccupied, on the owner; or (*c*) if the owner is out of the State or can not be found, by posting a copy of the notice on some conspicuous part of the land, the minister, by his officers and servants, may commence and complete such channel or embankment through such land so as approximately to follow the direction as set out or described in the notice with such variations as may be authorized under the provisions of this part.

63. For the purpose of the construction or the maintenance and repair of any channel or embankment proposed to be constructed or constructed under the authority of this part or to which this part applies the minister or a trust having the control of or carrying out such construction, maintenance, or repair shall be deemed to have had and shall have power at any time to enter any land within 16½ feet on either side of the center line of a distributing channel, or site for the same, or within lines distant 66 feet from the top of each bank of a water conservation or drainage channel or site for the same or any land being an embankment or site for the same and use such land for the said purposes notwithstanding that no easement or right so to enter or use such land may have been granted or acquired.

64. No compensation shall be payable or shall be deemed to have been payable for the exercise of any powers conferred by the two last preceding sections: *Provided*, That where, after the 28th day of December, 1906, any such power is or has been exercised with respect to land cultivated or having buildings thereon or being within population boundaries compensation shall be payable, the amount of which shall be determined by two arbitrators appointed, respectively, by the minister and by the person owning the land or buildings and by an umpire appointed by such arbitrators unless otherwise agreed by and between the minister and the said person. The provisions of the arbitration act, 1902, shall apply to any such arbitration.

65. (1) For the purposes of this act, the minister, or any person authorized by him, may enter any land and take levels and make surveys and marks, and fix pegs and stakes, and inspect any artesian wells, and works in connection therewith, and measure and take the pressure of such wells.

(2) Any person hindering him in the exercise of such power shall be liable to a penalty not exceeding £20.

(3) Any person who removes, injures, or interferes with any marks made, or pegs or stakes fixed as aforesaid, shall be liable to a penalty not exceeding £50.

DIVISION 7.—*Certain works not administered by trusts.*

66. The minister may, subject to the provisions of the public works act, 1900, carry out a "State work" under the said act out of the funds raised under this part, and may maintain and administer and, subject as aforesaid, extend the same as he thinks fit.

67. (1) Where the estimated cost does not exceed £5,000 the minister may, out of the funds raised under this part, carry out any works of water conservation that he deems desirable, and maintain and administer the same: *Provided*, That the minister shall, before carrying out any such work, refer the proposal to the board and obtain their report thereon.

(2) No charge shall be made for any water supplied to traveling stock from such works when situated at or near any public highway.

68. The minister may, out of the funds raised under this part, or out of the revenue account, or the loan account of the public works fund, carry out any work which he is authorized to carry out under the public watering places act, 1900, or under Part IV of this act.

DIVISION 8.—*Loans.*

69. (1) The governor may raise, in the year 1912, and in each of the next four succeeding years, by the issue of debentures or the issue of inscribed stock, secured upon the consolidated revenue fund of this State, and bearing interest at a rate not exceeding 4 per cent per annum, a sum not exceeding £200,000, for the purpose of carrying out works of water supply, water conservation or irrigation, or of drainage, or for the prevention of floods or the control of flood waters.

(2) The loans so authorized may be negotiated wholly or in part in the form of debentures or inscribed stock, in the State or in London, at such times and for such amounts as may be directed by the governor.

(3) Any stock issued within the State under this part shall be styled "New South Wales funded stock," and shall, if sold otherwise than by tender, be purchasable at the treasury upon any lawful day.

(4) The provisions of the funded stock act of 1892, relating to the method of inscription and transfer of stock, and the regulations under such act, and the forms prescribed in the said regulations, are hereby declared to be applicable to, and shall be followed and used, mutatis mutandis, in connection with stock issued within the State under the provisions of this part..

(5) In respect to any stock issued in London under the provisions of this act the governor may make regulations, not being inconsistent with the provisions of the inscribed stock act of 1883, for carrying this act into effect, and such regulations shall be published in the Gazette and laid before Parliament within 14 days of the publication thereof, if Parliament be then sitting, and if Parliament be not sitting, then within 14 days of the commencement of the next session thereof.

(6) All moneys borrowed under this act shall be paid to the treasurer, and shall be by him carried to and form part of the general loan account, and be appropriated and applied, as required, to the works and services hereinbefore specified, or to any other duly authorized loan services, in terms of the audit act, 1902.

(7) Debentures or stock sold or issued under this act are hereby declared to be for all purposes Government securities; and all corporations and other persons whatsoever shall have power to invest in the purchase of such debentures and stock any property held by them, whether as trustees or otherwise, which they are not expressly forbidden to invest in Government stock or securities, without on that account being liable as for a breach of trust or incurring any liability whatsoever, provided that such investment is in other respects reasonable and proper.

DIVISION 9.—*Miscellaneous.*

70. (1) If any work, other than a State work, which the minister is authorized by this part to carry out interferes with any rights under any license granted by the Crown under this act or any other act the minister shall give the holder of such license the following notice of his intention to carry out such work—that is to say (*a*) where the unexpired term of the license does not exceed five years, six months' notice; (*b*) where the unexpired term of the license exceeds five years, twelve months' notice.

(2) Such work shall not be carried out until after the expiration of the period expressed in such notice.

71. Any person who (*a*) obstructs the trustees or their officers or servants acting under this part of the regulations or by-laws made thereunder; or (*b*) interferes with works in charge of the trustees; or (*c*) destroys, injures, or obliterates any mark or level fixed by the trustees or their officers; or (*d*) uses water from the works of the trust otherwise than in the manner and at the times prescribed; or (*e*) obstructs the flow of or pollutes any water under the control of a trust; or (*f*) commits any breach of the provisions of this part shall be liable to a penalty not exceeding £20, and in the case of a continuing offense to a penalty not exceeding £5 per day whilst the offense continues, and shall also be liable to be sued by the trustees or by any person for compensation on account of loss or damage caused by his offense.

72. All rates and all charges imposed by or under this part, or the regulations or by-laws made thereunder, may be recovered in any court of competent jurisdiction.

73. Every work, other than a State work, which the minister is authorized by this part to carry out shall be carried out under the public works act, 1900, and all the powers and provisions of the said act relating to authorized works shall be applicable to such work, and for all purposes of the said act such work shall be deemed to be an "authorized work," and the minister shall be deemed a "constructing authority" within the meaning of the said act.

74. (1) The governor may make regulations for carrying out the provisions of this part, and in particular for (*a*) the election of trustees and the making and revision of the rolls of voters and the mode of voting; (*b*) the election by the trustees of a chairman; (*c*) the intervals within which meetings of

trustees must be held; (*d*) the procedure at such meetings; (*e*) the appointment, payment, and dismissal of officers and servants; (*f*) the fixing and notifying of rates; (*g*) the hearing of appeals; (*h*) the collection and recovery of rates and charging the same on lands in respect of which they are payable; (*i*) the keeping of the accounts of trustees; (*j*) regulating the payment to the Crown of interest and charges by the trust; (*k*) regulating the proceeds of the board; (*l*) regulating special meetings of voters of a trust in pursuance of this act; (*m*) imposing any penalty not exceeding £20 for any breach of the regulations.

(2) Such regulations shall be published in the Gazette.

75. (1) The trustees may, subject to the approval of the governor, make by-laws prescribing the duties of their officers and servants; for regulating the supply of water from and the use of the works of the trust; prescribing the duties of persons as to the maintenance, clearing, cleansing, and repair of the works of the trust; imposing any penalty not exceeding £10 for any breach of the by-laws.

(2) Such by-laws shall have effect when approved by the governor and published in the Gazette.

All such regulations and by-laws shall be laid before both houses of Parliament within 14 days after the making thereof, if Parliament is then in session, and if not, then within 14 days after the commencement of the next ensuing session.

PART IV—DRAINAGE PROMOTION.

DIVISION 1—*Preliminary.*

76. In this part, unless the context or subject matter otherwise indicates or requires—

"Drain" means any drain, channel, watercourse, or other artificial outlet for the purpose of draining any land into any waters.

"Flood" means any flood, flush, fresh, watershed, fall, tide, or other cause of a rise in the level of any waters above the bottom of any drain.

"Minister" means the minister for lands.

"Owner" means the owner, including the Crown, for the time being of any land, for any freehold estate, or any leasehold estate, whether such owner is or is not in actual occupation or the agent of such owner.

"Tenant" means the person in actual occupation of any land, not being the owner.

"Union" means "drainage union" constituted under this part or under any act hereby repealed.

"Waters" means any river, creek, stream, lagoon, lake, or other running or standing waters, the level of which is liable to variation, and the sea where the tide ebbs and flows.

DIVISION 2.—*Drainage unions and boards of directors.*

77. Whenever any tract of land is so circumstanced that from any permanent or occasional cause considerable quantities of water accumulate, and, for the default of sufficient natural or artificial drainage, lie thereon to the injury of such land, any owner or owners thereof may present a petition to the governor under his hand—(*a*) describing as accurately as may be the land so under water, or liable to be under water, and the locality and boundaries thereof; (*b*) stating therein (i) the facts as they exist; (ii) the nature and cause of the accumulations; (iii) the name and description of every other owner of such tract, including the Crown; and (iv) the number of acres held by such owners respectively; and (*c*) praying that all owners of such tract, except the Crown, may be constituted a union—by some name to be specified—for the purpose of compulsory drainage and contribution under this part.

78. Upon receipt of any such petition the governor may publish the same in the Gazette.

79. Before the issuing of the proclamation hereinafter mentioned—

(1) If any other owners of such tract of land, not including the Crown, being not less than one-fifth in number of holdings, present a counterpetition to the governor, showing reasonable objections to constituting such union, or if for any other reason the governor thinks fit, he may employ some competent person—(*a*) to examine such tract of land and report respecting the statements con-

tained in both petitions, and the sufficiency of the reasons alleged in the latter; (*b*) to make a survey and levels if deemed necessary; and (*c*) to report on the best mode of effecting the drainage of such tract; and the person so employed shall for such purposes have full power to enter upon any land within the limits of the proposed union.

(2) In the event of an examination, report, and survey being deemed necessary to be made, and before the same are made, the original petitioner shall pay into the State treasury, to the account of a separate fund, to be called the "Drainage union of A or B fund," such sum as is, in the opinion of the chief surveyor, sufficient to reimburse all expenses likely to be incurred by the Government in the matter, and out of which separate fund sufficient funds may for that purpose be from time to time drawn and transferred to the consolidated revenue fund by warrant of the governor: *Provided*, That if the prayer of the original petition is refused, the money so paid by such petitioner, or the balance thereof, shall be returned to him.

80. (1) After the lapse of two months from the day of the publication of the original petition the governor may, if he does not refuse the petition, publish in the Gazette a proclamation declaring the then owners of such tract of land and their successors, owners for the time being, the Crown excepted, to be a "drainage union" for the purpose of draining and keeping drained the said tract of land.

(2) By virtue of such proclamation, all such owners, and other owners for the time being, except the Crown, shall become and be a drainage union for such purpose only, and compellable by mandamus at the instance of ay one or more of such owners, or of the Crown if holding land within the tract, or of any person interested in the land or any part thereof, to drain, and from time to time thereafter to keep drained, such land accordingly.

81. (1) A board of directors of such union, not fewer in number than three nor more than seven, and two auditors, shall be annually elected by a majority of the votes of members present at a general meeting, duly convened by notice published by the minister in the Gazette and in the nearest local newspaper: *Provided*, That, if the Crown holds lands within such union, the governor shall be entitled to appoint one of such directors.

(2) The directors shall from time to time, under such by-laws as may be made by virtue of this act, choose one of themselves to be chairman, and shall, as a board, manage all the affairs of such union.

82. At a like general meeting by-laws may be made, not inconsistent with this act, and such by-laws, when confirmed by the governor and published in the Gazette, shall have the force of law.

83. (1) In voting at any such meeting for electing directors or making by-laws, every members of such union shall be entitled to one or more votes according to the assessed increased value to accrue to the several holdings as aforesaid, that is to say: If such increased value amounts to less than £50, the member shall be entitled to one vote; if £50 and below £100, two votes; if £100 and below £50, three votes; if £250 and below £500, four votes; and if £500 and upward, five votes.

(2) Every voter shall, before voting, make and subscribe a declaration in the terms of Schedule III hereto, before some justice of the peace.

84. (1) The board of directors may appoint such officers and servants as they deem necessary, and may, in the name of their chairman, make valid contracts and sue and be sued on behalf of the union.

(2) Every director, and also every other officer of the union shall, before entering upon business, make and subscribe before a justice a declaration in the terms of schedule IV hereto.

85. Notwithstanding the provisions contained in this part, every member of the said drainage union whose rates are fully paid shall be entitled to vote at any election of the board of directors of such union.

Division 3.—*Rates.*

86. A sworn appraiser shall be appointed by the governor, to be remunerated according to a scale of fees fixed by the governor and published in the Gazette, for the purpose of assessing the increased value to accrue to the several holdings, including those of the Crown, by reason of drainage under this part.

87. (1) If any owner objects to such mode of assessment in writing addressed to the minister, the registrar of the nearest district court shall, by direction of

the minister, summon a jury of 10 persons, not being members of such union, 5 of whom shall be chosen by lot, and who shall, on a day to be fixed by the district court judge, under his direction, assess such increased value, and the verdict of the majority of such jury shall be final, and the cost of such mode of assessment shall be borne by such owner.

(2) The contributions toward the expenses of the Government, and also the general contributions of the members of the union and of the Crown, if a holder, toward the expenses of such drainage, and also the proportions of voters hereinafter mentioned shall be apportioned according to such increased value.

88. (1) The board of directors of every union shall, within three months after election to office, and at a corresponding period in every subsequent year, cause an estimate to be made of the probable amount which will be required for the current year, commencing on the 1st day of January and ending on the 31st day of December, toward making, clearing, and keeping open drains by sufficient means, including steam engines where found to be requisite, in upholding embankments and in doing other necessary works for the purpose of fully carrying out this part, and shall raise the amount so estimated by an assessment not exceeding £10 per cent on the increased value accruing to the several holdings, including those of the Crown, from such works.

(2) The occupier of the lands assessed shall primarily pay the rates hereinafter mentioned: *Provided*, That if there is no sufficient provision in the lease, or in some other written instrument with reference thereto, the tenant may recover from his landlord a fair proportion of such rates, to be settled by arbitration in case of dispute.

89. (1) In each and every year there shall be paid by every person, including the Crown, holding land within the union, and toward the revenues of such union, for every portion of land so held, a rate not exceeding £20 per cent of the increased annual value thereof, to be settled as herein mentioned, and all such rates for the first year shall be paid into the hands of the chairman of the board of directors within two months after notice in writing signed by him, and for every succeeding year in such time and manner as may be required by any by-law made under this part.

(2) In default of payment of such rates, or of such amended rates as may be determined on appeal as hereinafter provided, such rates, or amended rates, may be levied by warrant under the hand of such chairman by distress and sale of the goods and chattels of the person by whom the same are due, and in the event of such goods and chattels not being found of sufficient value to satisfy such rates, or amended rates, then by sale of the land, or a sufficient portion thereof: *Provided*, That the surplus, if any, shall be repaid to the owner of such goods and chattels or land.

(3) If any person rated under the provisions of this part fails to pay any rate due from him for the space of 30 days after demand thereof made in writing, signed by the chairman or any director for the time being of any union, or by a collector duly authorized in that behalf by any drainage union, or after publication in some newspaper circulating in the neighborhood of a notice requiring such payment to be made, any such drainage union may, at their discretion, withhold or abandon proceedings by distress and sale, as provided in the preceding subsection, and may, after default as aforesaid, or in the absence of any or a sufficient distress, recover the amount of rates due from the person rated for the same in a summary way before two justices, and the same when recovered shall be paid over to the union interested toward its revenue.

90. Any person aggrieved by the amount of any such rate may appeal against the same to the nearest petty sessions, which court shall have power to hear and determine the same and to award such relief in the premises as the justice of the case may require, and the decision thereof shall be final: *Provided*, That the appellant shall give notice in writing under his hand to the chairman of his intention to appeal seven days, at least, before the holding of the court for hearing such appeal: *Provided also*, That no justice, being a member of the union, interested in such appeal, shall adjudicate therein.

91. All complaints or other legal proceedings for the recovery of any rates as aforesaid, or for any noncompliance with or any breach of this part, or of any by-laws made thereunder, may be laid and taken by the chairman of, or any other officer appointed by, any union in that behalf, and any such chairman or officer may appear and represent any union at the hearing of such complaints or other legal proceedings.

DIVISION 4.—*Arbitration.*

92. Whenever it becomes necessary, under the provisions of this part, to proceed by arbitration, the arbitrators and umpire shall be appointed, and the arbitration shall be conducted in manner following:—

(1) Where the Crown is a party, the minister and the other party may concur in the appointment of a single arbitrator, and failing such concurrence, then on the request of the minister or such other party, after appointing an arbitrator in writing under his hand in the form of Schedule V hereto, such other party or the minister, as the case may be, shall also in like manner appoint an arbitrator.

(2) Where the Crown is not a party, the parties to the dispute may concur in the appointment of a single arbitrator, and failing such concurrence, after either party shall in like manner have appointed an arbitrator, the other party shall, at his request also in like manner, appoint an arbitrator.

(3) All appointments of arbitrators shall be delivered to the respective arbitrators, and shall be attached to the award when made, and shall be deemed to be a submission to arbitration.

(4) Any submission to arbitration may, on the application of either party, be made a rule of the supreme court or of the district court of the district.

(5) Every request to appoint an arbitrator shall be in the form of Schedule VI hereto, and if within 60 days after the same has been duly served, together with a copy of the first appointment, the party served fails to appoint an arbitrator, the arbitrator so first appointed shall be deemed to be appointed by and shall act as a single arbitrator on behalf of both parties.

(6) No appointment of an arbitrator shall be revoked without the consent of both parties to the arbitration, nor shall the death of any party operate as a revocation.

(7) Every award made in the form or to the effect of Schedule VII hereto, and signed by the single arbitrator, or by both arbitrators, or by the umpire, as the case may be, shall be final and conclusive and binding upon all parties to or interested in the arbitration for all intents and purposes.

(8) If before the making of the award any arbitrator dies or refuses or becomes incapable to act, the party by whom he was appointed may appoint in writing under his hand, in the form of Schedule V hereto, another person in his stead, and if he fails so to do for 30 days after request in writing, in that behalf from the other arbitrators, such other arbitrator may proceed ex parte and make his award as single arbitrator for both parties.

(9) Every arbitrator becoming a single arbitrator in any manner aforesaid, shall have the same powers and authorities as are by this part vested in any arbitrator appointed to be single arbitrator with the concurrence of both the parties.

(10) If a single arbitrator dies, or refuses or becomes incapable to act, before the making of his award, or fails to make his award within 60 days after his appointment, or within such extended time (if any) not exceeding 30 days as has been duly fixed by him for that purpose by indorsement on his appointment in the form of Schedule VIII hereto, the matters referred to him shall be again referred to arbitration, under the provisions of this part, as if no former reference had been made.

(11) If there is more than one arbitrator the arbitrators shall, before they enter upon the reference, appoint an umpire by indorsement on each of their appointments under their hands in the form of Schedule IX hereto, and if the person appointed to be umpire dies, or refuses or becomes incapable to act, the arbitrators shall forthwith appoint in like manner another person in his stead, and in case the arbitrators neglect or refuse to appoint an umpire for 30 days after the date on which the last of them was appointed, an umpire may be appointed by the minister.

(12) If arbitrators fail to make their award within 60 days after the day on which the last of them was appointed, or within such extended time (if any), not exceeding 30 days, as has been fixed by them for that purpose by indorsement as aforesaid, the matters shall be determined by the umpire, and the provisions of this part with respect to the time for making an award, and with respect to extending the same in the case of a single arbitrator, shall apply to any umpirage save and except that such time shall commence and be computed from the date of the matters being referred to the umpire.

(13) Any arbitrator or umpire appointed by virtue of this part may require the production of such documents in the possession or power of either party

as he thinks necessary for determining the matters referred, and may examine any persons, including the parties, as witnesses, on oath.

(14) All costs of and consequent upon the reference shall be in the discretion of the arbitrator, arbitrators, or umpire, as the case may be: *Provided*, That where no special agreement is made beforehand by the parties, the charge of each arbitrator or of the umpire shall not in any case exceed £1.

(15) Before any arbitrator or umpire enters upon the reference, he shall make and subscribe before a justice a declaration in the form of Schedule X hereto.

(16) Every such declaration shall be annexed to the award, and any arbitrator or umpire who in such declaration falsely states that he is not so interested, or who willfully acts contrary to such declaration, shall be guilty of a misdemeanor.

(17) No appointment or award shall be set aside for irregularity or error in matter of form.

(18) Every award shall be in writing and in duplicate, and shall be transmitted by the arbitrator, arbitrators, or umpire to each party or the agent of each party, and where the Crown is a party, to the minister, and the minister shall deposit the same in his office.

DIVISION 5.—*Miscellaneous.*

93. Every union shall, within one year after its establishment, publish in the Gazette a plan of the drainage contemplated within the limits of such union, showing accurately the position and direction, width, depth, and other material particulars of such drainage, and distinguishing the parts (if any) then completed, and shall cause tracings of such plan to be lodged with the chief surveyor, to be recorded by him for public reference at convenient hours, and a like tracing to be lodged for like reference with the registrar of the district court of the district.

Such union shall thereafter, in every successive half-year, publish and transmit in like manner like plans and tracings as to all then intended additional drainage.

94. No alteration affecting any navigable water shall be made without the sanction of the governor.

95. Every union shall also, once in every half year at equal intervals of time, publish twice in the Gazette a correct debtor and creditor account, certified under the hand of their chairman and by the auditors, of all receipts and payments under this part for the last half year; and if the Crown is a holder of lands within the union, shall transmit the same to the minister.

96. All members of every union, and, if the Crown is a holder of lands within the union, the minister or any person duly authorized by him, may at all reasonable times examine any drain constructed by the union: *Provided*, That if any damage or injury to any property is done by or by reason of such examination, the party causing such damage or injury shall be answerable for the same.

97. Every union may borrow, by mortgage or otherwise, on the credit of any property or revenue belonging thereto, for or toward or incidental to the making or completing of any such drains or any works within the purposes of this part, any money not exceeding the estimated revenue of such union for five years: *Provided*, That no money shall be so borrowed without the sanction of the governor.

98. No action or other proceeding, whether civil or criminal, shall be commenced by any union against any person under this part after the expiration of 12 months from the day on which the cause of such action or proceeding arose: *Provided*, That when such person is absent from the State service of any notice or process in any civil proceeding against such person may be made upon the land in like manner as in cases of ejectment.

99. On the receipt of a petition, under the hand of not less than one-third part of the members of any union in number and value of holdings, and after publication of such petition in the Gazette and at least one local newspaper for two months, and no sufficient cause against it shown by other such members more in number and greater in value, the governor may dissolve such union, if then free from all debt as aforesaid, from and after a day to be named in a proclamation published in like manner, and the union shall be so dissolved accordingly.

100. Any owner who cuts or makes any drain the bottom of which at its opening into any waters is so low as to injure or endanger any other property, and omits to construct and fix in and to every such drain a floodgate sufficient when closed to prevent the flow from such waters through such drain of any water over or upon the land of any other owner, shall be liable to a penalty not exceeding £100, and to a further penalty not exceeding £20 for every week after the imposition of the first penalty during which he fails to construct such floodgate.

101. (1) Whenever any drain cut for the benefit and at the expense of two or more owners, but not being within a union in terms of this part, in the opinion of any such owner requires cleansing or repair so as to render it effective, such owner may give written notice to each of the other owners requiring them to take measures for such cleansing and repair.

(2) After the expiration of 14 days from the service of such notice the owner serving the said notice, failing the agreement of all the owners, or the owners consenting, if any other owner consents, may enter upon any lands through which such drain passes and may cause such cleansing and repairs to be effected.

(3) The owners declining to effect such cleansing and repairs, or failing to consent to the same, shall be liable to their ratable share of the cost of such cleansing and repairs, to be determined and recovered in a summary way before any court of petty sessions if such court is satisfied that such cleansing and repair were necessary.

102. Nothing herein shall affect any remedy at law by which the Crown or any person may recover compensation in damages for any loss or injury to any land, stock, crops, or other property by reason of any breach or neglect by the Crown or any other person of any provision of this part.

103. Whosoever wilfully injures or damages any drain, floodgate, or other work connected with drainage under this part, or wilfully trespasses upon, damages, or injures any property under color or pretense of carrying out this part shall, in addition to any liability at law to compensate for such trespass, damage, or injury be liable for every such offense to a penalty not exceeding £20 nor less than £1.

104. (1) Any union or any owner of land may, for the purpose of draining land under this part, make and cut drains through any adjacent or neighboring land into any waters.

(2) Such union or owner constructing such drain shall be liable at law to make full compensation for any damage thereby occasioned to the proprietor of such adjacent or neighboring land, and be subject to all other the provisions of this part in respect of drains.

(3) The amount of such compensation shall be settled by arbitration under this part.

(4) Such compensation shall be estimated at one-fifth part above the value of the property affected at the time such loss or damage accrues.

PART V.—ARTESIAN WELLS.

DIVISION 1.—*Interpretation and general.*

105. In this part—

"Artesian well" includes an artesian well from which the water does not flow naturally, but has to be raised by pumping or other artificial means; and

"Minister" means minister for public works.

106. Any work constructed under the authority of the artesian wells act, 1897, or any act amending the same, shall be deemed to have been constructed under this part.

DIVISION 2.—*Construction and charges.*

107. (1) The governor may notify in the Gazette any proposal for the construction by the Crown of any artesian well, and for the conservation and supply of the water flowing from such well, together with an estimate of the cost of the same.

(2) After such notification the minister may refer any such proposal to the land board for the land district within which the proposed work would be situate, or to a land board for a land district adjacent thereto; and such land board shall thereupon forward a report to the minister describing the land which, in

the opinion of the board, would be benefited by water from the proposed well, and should be included in any district to be constituted in respect of the said work.

(3) Upon receipt of such report the minister may, by notification in the Gazette, declare the land so described to be a district within which the charges in the next following section mentioned may be levied.

(4) If, after such last-mentioned notification, a petition in favor of the proposal of the minister is presented to the land board signed by persons—(*a*) who constitute a two-thirds majority of the total number of those owning or occupying, or being mortgagees, of land within the district; and (*b*) who own or occupy or are mortgagees of an area exceeding two-thirds of the total area within the district, the board may report to the minister recommending that the proposal be carried out.

(5) Thirty days after the receipt of a report to that effect the minister may carry out the work with funds legally available for the purpose: *Provided*, That if an appeal to the land appeal court affecting the same is pending, carrying out of the work shall be stayed until the appeal is decided.

108. (1) On the completion of a work constructed under the preceding section, the minister may direct the land board to assess the charges to be paid by each occupier of land within the district notified as aforesaid.

(2) Such charges shall not exceed the yearly value to each occupier of the direct benefit accruing to his land from the construction of the well and from the supply to the said land of water from the well, deduction being made for the probable cost of the maintenance of the channels and works as hereinafter provided.

(3) The total of such charges shall not exceed £6 per centum of the cost to the Crown of the construction of the work.

(4) On the petition of persons liable in the aggregate to pay one-quarter of the total amount of the charges, or at the request of the minister, the land board shall make a fresh assessment of the charges to be paid.

109. If the occupiers, owners, or mortgagees of any lands in writing request the minister to construct an artesian well for the purpose of supplying water to their lands, and consent to pay any charges which may be levied in respect of the same, the minister may, if he approves of the request, construct the well and such channels and other works for the supply of the water as he may think fit, with funds legally available for the purpose.

110. (1) On the completion of a work constructed under the preceding section, the minister may direct the land board of the land district within which the work is situate to assess the charges to be paid by each occupier of any of the said lands.

(2) Such charges shall not exceed the yearly value of each occupier of the direct benefit accruing to his land from the construction of the well, and from the supply to the said land of water from the well, deduction being made for the probable cost of the maintenance of the channels and works as hereinafter provided.

(3) The total of such charges shall not exceed £6 per centum of the cost to the Crown of the construction of the work.

(4) On the petition of persons liable in the aggregate to pay one-half of the total amount of the charges, or at the request of the minister, the land board shall make a fresh assessment of charges to be paid.

111. On the receipt of a petition in writing by the occupiers, owners, or mortgagees of any land situate in the neighborhood of an artesian well constructed under this part, and in respect of which charges are payable under this part, and on obtaining the consent in writing of the persons who—

(*a*) Constitute a two-thirds majority of the total number of those liable to pay charges as aforesaid; and

(*b*) Who occupy an area exceeding two-thirds of the total area in respect of which those charges are payable, the minister may, by notice in the Gazette, extend the supply of water from the well to the lands of the first mentioned occupiers, owners, and mortgagees—

Charges shall be assessed and paid in respect of such lands under this part.

DIVISION 3.—*Licenses.*

112. (1) No artesian well shall be commenced or be enlarged, deepened, or be altered to increase the flow of water therefrom, unless (*a*) in pursuance of a license under this part; or (*b*) in pursuance of a written contract, signed

before the 29th day of December, 1906, and lodged with the minister within 14 days after such date; (*c*) in compliance with conditions imposed in an improvement lease granted before such date, and if notice of such lease is given to the minister within 14 days after such date; or (*d*) where the well is to be sunk, enlarged, deepened, or altered by the Crown.

(2) If any person contravenes the provisions of this section, the said person, and the owner of the well in respect of which the contravention has occurred, shall, on conviction, be liable to a penalty not exceeding £100, and a further penalty of £5 for each day during which the contravention continues after such conviction.

113. (1) Applicatoon for a license for any new artesian well, or for enlarging, deepening, or altering any existing well, shall be made to the under scribed plans and descriptions, together with a statement of the purposes for which it is proposed to utilize the water.

(2) On application being so made, the minister shall cause to be advertised, once in the Gazette and once in a public newspaper circulating in the neighborhood where the well or the site for the well is situate, a notice of the receipt of the application, stating that on a day therein named, and at a place therein named within the land district in which the well or the site thereof is situate, a public inquiry will be held as to the desrability of granting the application.

114. (1) The inquiry shall be held by the board, or by some person authorized by the board, and approved by the minister. The board shall report in writing to the minister upon the inquiry.

(2) All persons whose interests appear to be affected by the granting of the application shall be permitted to attend at the inquiry, and be heard in support of, or in opposition to, the granting of the application.

115. If the board reports in favor of the issuing of a license, the same shall be notified by the minister in the Gazette, and the minister shall, after the expiration of 30 days from such notification, issue a license to the applicant in the prescribed form, subject to such terms, limitations, and conditions, if any, as may be recommended in such report, and to such conditions as he thinks fit: *Provided*, That before granting a license the minister may require such alterations to be made in or in connection with the work, or in the plans and specifications of the same, as may be recommended by the said report, or as he may think fit.

116. The license, if granted, shall be granted for a period not exceeding 28 years, and shall (subject to the provisions of this part with regard to the renewal of licenses, and subject to such limitations and conditions as the minister may think fit to make) be renewed by the minister, from time to time, on the application of the person holding the license: *Provided*, That no renewal shall be for a longer period than 14 years.

117. A license shall be deemed to be held by and shall operate for the benefit of the lawful occupier for the time being of the land whereon the well is sunk or is proposed to be sunk.

118. During the time that a license under this part is in force with respect to a well, no alterations other than repairs or alterations necessary for the maintenance of the well, or on account of any sudden or unforeseen emergency, shall be made in or in connection with the well, nor shall the water from the well be used for purposes other than those authorized by the license.

Any person who contravenes the provisions of this section, or contravenes or fails to carry out any condition of the license, shall be liable to a penalty not exceeding £50, and a further penalty of £5 for each day during which the contravention continues after such conviction; and in addition to the imposition of the said penalty, the license may, by notice in the Gazette, be canceled: *Provided*, That the holder of any such license may, during the currency thereof, apply for an amended license allowing alterations in the well, and any such application shall be dealt with as herein provided in respect of applications for a license in the first instance.

DIVISION 4.—*Miscellaneous.*

119. All charges and expenses payable under the authority of this part shall be a charge on the land in respect of which they were payable.

120. (1) It shall be the duty of each occupier of any of the lands in sections 107 and 109 mentioned, and if any of the said lands should at any time be unoccupied it shall be the duty of the owner thereof to maintain in good repair

and in efficient condition such channels and other works in connection therewith as have been constructed through his land; and any occupier or owner who fails to comply with the provisions of this subsection shall be liable to a penalty not exceeding £50.

(2) The minister or any person appointed by him in that behalf may, on being informed of any failure by an occupier or owner to comply with the provisions of the last preceding subsection, require the occupier or owner, by notice in writing served on him, to effect such repairs and do such things as he may consider necessary in order to put the channel in an efficient condition. If the occupier or owner for one week after receipt of the notice fails or neglects to comply therewith, it shall be lawful for the minister to cause such repairs and things as aforesaid to be effected and done, and recover from the occupier or owner, as the case may be, in any court of competent jurisdiction the expenses thereby incurred.

121. Any person who willfully cuts, breaks, or destroys or damages, with intent to destroy or render less useful, any work constructed under the authority of this part, shall be liable for all damage and loss sustained by such act, and shall be in addition liable to be fined any sum not exceeding £100, or to be imprisoned for any term not exceeding six months.

122. Any person who willfully and wrongly obstructs or diverts the flow of water in any channel constructed under the authority of this part shall be liable to a penalty not exceeding £50.

123. (1) If the minister is of opinion that the water from any artesian well is being wastefully or improperly used, or is being wasted, he may direct the partial closing of such well, or direct such other precautions to be taken as he may deem necessary to prevent such improper use or waste.

(2) Any person refusing or neglecting to carry out any direction given by the minister under this section shall be liable, for every day during which such refusal or neglect continues after such direction has been given, to a penalty not exceeding £20, and in addition to the said penalty, any license issued under this part in respect of such well may, by notice in the Gazette, be canceled.

124. (1) For the purposes of this part the minister or any person authorized by him may enter any land and take levels and make surveys and marks and fix pegs and stakes and inspect any artesian wells and works in connection therewith, and measure and take the pressure of such wells.

(2) Any person hindering him in the exercise of such powers shall be liable to a penalty not exceeding £20.

(3) Any person who removes, injures, or interferes with any marks made, or pegs or stakes fixed as aforesaid, shall be liable to a penalty not exceeding £50.

125. Charges and expenses payable under and penalties imposed by this part, or by any regulations made thereunder, may be recovered before a police or stipendiary magistrate or any two justices in petty sessions.

126. Any report, recommendation, or decision of a land board under this part shall be subject to an appeal or reference to the land court in the manner prescribed by the Crown lands acts, or any regulations made thereunder. The decision of the said court shall be final.

127. All works and wells constructed under the authority of this part shall be subject to the provisions of the public-works act, 1900.

128. All charges payable under this part shall be paid, at the times and in the manner prescribed, into the consolidated revenue fund.

129. (1) The governor may make regulations—(*a*) for levying and collecting

128. All charges payable under this part shall be paid, at the times and in supply and use of water from any well constructed under the authority of this part; (*c*) prescribing the steps to be taken in order to maintain the bores and channels in good repair and in efficient condition; (*d*) prescribing the forms of licenses and renewals of the same; and (*e*) for carrying out the provisions of this part; and may, in such regulations, impose any penalty not exceeding £20 for any breach of the same, or, where the breach is a continuing one, not exceeding £5 for every day during which the breach continues.

(2) All such regulations, on being published in the Gazette, shall have the force of law, and shall, within 14 days thereafter, be laid on the table of each house of Parliament, if Parliament be then in session; but, if not, then within 14 days after the next meeting of Parliament.

SCHEDULES.

Schedule I.

Number of acts.	Name of act.	Extent of repeal.
No. 41, 1897	Artesian wells act, 1897	The whole.
No. 31, 1901	Drainage promotion act, 1901	The whole.
No. 28, 1902	Drainage promotion act amendment act, 1902	The whole.
No. 51, 1902	Water rights act, 1902	The whole.
No. 93, 1902	Water and drainage act, 1902	The unrepealed portion.
No. 59, 1906	Water and drainage and artesian wells (amending) act, 1906	The whole.
No. 20, 1911	Water and drainage (amendment) act, 1911	The whole.

Schedule II.

For the purpose of fixing scales of fees, works shall be divided by the minister into the following classes:

Class I consists of the following works in or connected with rivers, which, in the opinion of the minister, now in the neighborhood of the works six months or longer in the year, on an average being taken of the 10 years immediately preceding the making of the application: (*a*) Dams and weirs for supplying water by gravitation, through natural or artificial channels, for irrigation or other purposes. (*b*) Artificial channels or natural channels artificially improved through which, without the aid of a dam or weir, water is or may be supplied by gravitation, for irrigation or other purposes.

Class II consists of the following works in or connected with rivers, which, in the opinion of the minister, flow in the neighborhood of the works less than six months in the year, on an average being taken of the 10 years immediately preceding the making of the application: (*a*) Dams and weirs for supplying water by gravitation, through natural or artificial channels, for irrigation or other purposes. (*b*) Artificial channels or natural channels artificially improved through which, without the aid of a dam or weir, water is or may be supplied by gravitation for irrigation or other purposes.

Class III. Pumping machinery and other water-lifting appliances exclusive of those where the motive power employed does not exceed 1 horsepower.

Class IV. Dams and weirs for storing water and not included in Class I or Class II.

Class V. Floodgates for drainage purposes on the banks of rivers or lakes, and artificial channels or natural channels artificially improved emptying or draining into a river or lake.

Fees for granting or renewing licenses.

The following license fees payable on the granting or renewing of licenses will in each case cover the period for which the license is granted or renewed:

Class I. The license fee to be paid in respect of a work included in this class shall be calculated as follows: The minister, or some person authorized by him in that behalf, shall determine the amount of water per minute which can be supplied to the licensee by the work, and the fee payable is hereby fixed at the rate of £2 for every 750 gallons, or portion of 750 gallons, of water per minute so determined as aforesaid, up to and including 37,500 gallons per minute, and for water which can be supplied as aforesaid above that amount, at the rate of £4 for every 3,750 gallons or portion thereof per minute.

Class II. The license fee to be paid in respect of a work included in this class shall be calculated as follows: The amount of water per minute which can be supplied by the work shall be determined in the same way as in the case of works included in Class I, and the fee payable is hereby fixed at the rate of £2 for every 1,500 gallons, or portion of 1,500 gallons, of water per minute so determined as aforesaid, up to and including 37,500 gallons per minute, and for water which can be supplied above that amount as aforesaid, at the rate of £2 for every 3,750 gallons or portion thereof per minute.

Class III. The license fee to be paid in respect of a work included in this class shall be as follows:

(*a*) Where the motive power employed or to be employed does not exceed 1 horsepower no charge for a license shall be made.

(*b*) Where the pumping machinery or other water-lifting appliance can, in the opinion of the minister, be used to obtain water from a river or lake for irrigation or other purposes for a period of at least six months annually without the aid of a dam or weir, the license fee shall be the same as in Class I.

(*c*) Where the pumping machinery or other water-lifting appliance can, in the opinion of the minister, be used to obtain water from a river or lake for irrigation or other purposes for a period of less than six months annually without the aid of a dam or weir, the license fee shall be half that payable under the last preceding paragraph.

(*d*) Where, with the aid of a dam or weir, the pumping machinery or other water-lifting appliance will, in the opinion of the minister, deliver water for irrigation or other purposes during at least six months annually, the license fee for the combined works shall be a mean between the fee payable under Class I and that payable under Class II.

(*e*) Where, with the aid of a dam or weir, the pumping machinery or other water-lifting appliance will, in the opinion of the minister, deliver water for irrigation or other purposes for a period of less than six months annually, the license fee for the combined works shall be half that payable under the last preceding paragraph.

Class IV.—The license fee for a work included in this class shall be £1.

Class V.—The license fee for a work included in this class shall be £1.

—

Schedule III—Declaration of voter.

I, A B, do hereby solemnly declare that I am the owner of land, as described in this act, to the value of ------ pounds, and a member of the ------ union for drainage, and that I have not yet voted at this election.

—

Schedule IV—Declaration of officer.

I, A B, having been elected director (or chairman or other officer) of the board of directors of the ------ union for drainage, do hereby solemnly declare that I will duly and faithfully fulfill the duties of that office to the best of my judgment and ability, and that I have not fraudulently or collusively obtained the said office.

—

Schedule V—Appointment of arbitrators.

I, A B (or minister for lands on behalf of the Crown if a party), do hereby appoint E F to be one of two arbitrators under the water act, 1912, Part IV, to determine in the mode prescribed by that act the matter hereinafter stated which is in dispute between the Crown (or myself) and C D (or the Crown). And I hereby promise and agree that I will submit to and be bound by the award in writing to be made by the said arbitrator and the other arbitrator appointed by the said C D (or by the minister for lands on behalf of the Crown), or by the umpire (if any) appointed by them.

[State precisely the question to be determined.]

Witness—

[Signature.[1]]

—

Schedule VI—Request.

[Date.]

To C D (or the minister for lands in case of Crown):

I, A B, having, by the instrument of which I annex a copy hereto, duly appointed, under the water act, 1912, Par IV, E F to be one of two arbitrators to determine the matter of dispute set forth in the said instrument, do hereby

[1] In case of a corporation this appointment must be under the common seal.

request you to appoint another arbitrator in due time, as under the said act, in default thereof the said E F will act as single arbitrator, and will alone determine and make his award in writing respecting the said matter.

Witness— [Signature.]

Schedule VII—Award.

We, E F and G H, arbitrators (or I, E F, a single arbitrator, or I, K L, the umpire), duly appointed under the water act, 1912, Part IV, to determine and make our (my) award in writing concerning the matter next hereunder stated in dispute between A B and C D,

[Here copy statement of the matter in dispute in precisely same words as at foot of appointment of arbitrators.]

do by this, our (my) award in writing, under our hands (my hand), determine and award as follows:

[Here give the determination in plain and simple language, taking care to provide for every point in dispute.]

Witness— [Signatures or signature.]

Schedule VIII—Indorsement.

[Date.]

We, E F and G H, arbitrators (or I, E F, single arbitrator, or I, K L, umpire), duly appointed by the within instrument under the water act, 1912, Part IV, to determine by arbitration and make award upon the matter therein stated in dispute between A B and C D (or minister for lands on behalf of the Crown), do hereby extend the time for making our (or my) award until the _____ day of _____, 19__.

Witness— [Signatures or signature.]

Schedule IX—Appointment of umpire.

[Date.]

We, E F and G H, arbitrators appointed by the within instrument to determine the matter in dispute therein stated, do hereby, before we proceed upon such arbitration, appoint K L to be umpire under the act within mentioned, and to determine and make his award in writing concerning such matter in the event of our differing concerning the same.

Witness— [Signatures.]

Schedule X—Declaration.

I, A B, do solemnly and sincerely declare that I am not directly or indirectly interested in the matter in dispute between A B and C D, referred to me as arbitrator (or as one of the arbitrators or as umpire), and that I will faithfully, honestly, and to the best of my skill and ability hear and determine such matter under the water act, 1912, Part IV.

CHAP. 289.—An act to declare the rights of the Crown in respect to water and water power, and relating to the diversion, acquisition, and use of water. [Consolidated for convenience only, March, 1913.]

Whereas all water in the Province not under the exclusive jurisdiction of the Parliament of Canada, remaining unrecorded and unappropriated on the 23d day of April, 1892, has already been declared by the Legislature of British Columbia to be vested in the Crown in the right of the Province;

And whereas, in the past, records of the right to divert and use water have been honestly but imperfectly made, resulting in confusion and litigation;

And whereas it is desirable that the rights of existing users under former records should be properly declared;

And whereas it is desirable and expedient that the law relating to the acquisition and use of water for all purposes should be amended and consolidated, and the right to acquire and use water should be brought under one uniform system;

Therefore His Majesty, by and with the advice and consent of the Legislative Assembly of the Province of British Columbia, enacts as follows:

SHORT TITLE.

1. This act may be cited as the "water act." (1909, c. 48, s. 1.)

INTERPRETATION.

2. In the construction and for the purposes of this act, including this section (if not inconsistent with the context or subject matter), the following terms shall have the respective meanings hereinafter assigned to them:

"Minister" means the minister of lands, and shall include any person for the time being lawfully acting in that capacity.

"Department" means the department of lands of the Provincial Government.

"Board" or "board of investigation" means the board of investigation created under Part III of this act.

"Comptroller" means the comptroller of water rights appointed under this act, and shall include any person for the time being lawfully acting in that capacity.

"Water recorder" shall include the comptroller of water rights, and any water recorder appointed for any one or more water districts, or any person for the time being lawfully acting in that capacity.

"Land surveyor" means any duly authorized provincial land surveyor or any engineer approved by and acting under instructions from the minister.

"Crown lands" means all lands of this Province held by the Crown without incumbrance.

"Company" means any incorporated company the object and powers of which extend to or include the construction or operation of works or the supply or utilization of water.

"Power company" means a company authorized to have and exercise the powers and privileges conferred by Part IX of this act.

"Works" means and includes any and all dikes, dams, weirs, floodgates, measuring devices, breakwaters, drains, ditches, canals, basins, reservoirs, tunnels, bridges, culverts, cribs, embankments, headworks, flumes, aqueducts, pipes, pumps, and any and all contrivances for holding, carrying, or conducting water, or other works which are authorized to be constructed under this act.

"Water" or "stream" shall include all natural watercourses or sources of water supply, whether usually containing water or not, and all streams, rivers, lakes, creeks, springs, ravines, and gulches, and all water power.

"Unrecorded water" means all water which for the time being is not held under and used in accordance with a license under this act, or a record under any former act, or held under special grant by public or private act, and shall include all water for the time being unappropriated or unoccupied and not used for a beneficial purpose.

"Duty of water" means the area of land that a unit of water as regulated by this act or any lawful authority will irrigate.

"Acre-foot" means a quantity of water that will cover 1 acre of land 1 foot deep.

"Record" means an entry in some official book kept for that purpose, or any certificate of the record of water issued under the provisions of any act of the Province.

"License" means a license to use water, or to take and use water, or to store or pen back water, except in Part XI, where it means a license granted under Part XI of this act.

"Licensee" means any municipality, company, partnership, or person who is granted a license in accordance with this act.

"Mine" shall include "claim" and "mineral claim," and means any land held or occupied under the mining laws of the Province for the purpose of winning and getting therefrom minerals, whether precious or base, and whether held in fee simple or by virtue of a record or lease.

"Domestic purposes" means and shall include household, sanitary, and fire-protection requirements, and the watering of cattle and poultry, and the irri-

gation of any garden not exceeding one-half an acre adjoining and occupied with any dwelling house.

"Driving logs" shall include driving timber, lumber, rafts, and crafts.

"Cattle" shall extend to and include horses, colts, mares, fillies, foals, geldings, bulls, cows, heifers, bullocks, oxen, steers, calves, sheep, lambs, goats, kids, swine, asses, mules, jennets, and other domestic animals.

"Owner of land" shall include every lawful occupant of land or of a mine.

"Municipality" shall include municipal corporation.

"Municipal purposes" means and shall include the supply of water to any city, township, or district municipality or unincorporated locality for domestic purposes, and within the boundaries of any such municipality or unincorporated locality the supply of water to railways, manufacturers, and others for conversion into steam.

"Unincorporated locality" means and shall include any portion of the Province not exceeding 2,000 acres in area, and not being or comprising a municipality or portion thereof.

"Rules" means and shall include rules and regulations made by the lieutenant governor in council pursuant to the powers conferred by this act.

"Obligations" shall include restrictions, limitations, conditions, and duties.

"Mineral water" means and shall include water so impregnated with foreign ingredient as to give it medicinal properties, or a peculiar operation on the physical economy, or water of such a temperature as to give it a commercial value in respect thereof.

"Local newspaper" means a newspaper published in the water district within which the stream is situate, and if there be no newspaper so published, a newspaper published in the Province and circulating in the said district.

"Undertaking" means, in reference to the undertaking of a municipality or a company, the project for the taking, diversion, carriage, and use, or for the sale, barter, and exchange, of the water or of the power procured or generated from the water described in the application, record, or license held by the said municipality or company.

"Dominant land" means the particular hereditament to which the record or license is appurtenant.

"Territorial limits" or "territory" means the area over which the municipality or the company is authorized to sell, barter, or exchange the water or the power procured or generated from the water authorized to be diverted or stored.

"Point of diversion" means the actual point or the place at which, on the natural course of the steam, a licensee is authorized to divert water from that stream.

"Noncommercial license" means and shall include licenses for domestic purposes for 10,000 gallons of water or less per day; licenses for the irrigation of 160 acres of land or less; licenses for industrial purposes for 4 cubic feet or less of water per second; licenses for mining purposes for 10 cubic feet or less of water per second; and licenses for the utilization of mineral water or the water of springs.

"Commercial license" means and shall include all other licenses issued under Part V of this act.

"Water-rights map" means the map as existing for the time being prepared under the direction or authority of the minister pursuant to Part II of this act.

"District" means and shall include one of the water districts into which the Province is divided pursuant to this act.

"Irrigation company" means a company authorized to have and exercise the powers and privileges conferred by Part XA of this act.

In defining any word or expression used in this act relating to a municipality or to municipal matters and not by this section expressly defined, reference may be had to the interpretation section of the "municipal act."

In defining any word or expression used in this act relating to mines and minerals and not by this section expressly defined, reference may be had to the interpretation section of the "mineral act" and of the "placer-mining act." (1909, c. 48, s. 2; 1912, c. 49, ss. 2, 3; 1913, c. 82, s. 3.)

DIVISION OF ACT.

8. This act is divided into 17 parts, relating to the following subjects:

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(1909, c. 48, s. 3; 1912, c. 49, s. 4.)

PART I.—CONFIRMING TO THE CROWN THE OWNERSHIP OF ALL WATER.

4. Saving the right of every riparian proprietor to the use of water for domestic purposes, the right to the use of the unrecorded water in any stream is hereby declared to be vested in the Crown in the right of the Province; and, save in the exercise of any legal right existing at the time of such diversion or appropriation, no person shall divert or appropriate any water except under the provisions of this or some former act or except in the exercise of the general right of all persons to use for domestic purposes water to which there is lawful public or private access. (1909, c. 48, s. 4.)

5. No right to the permanent diversion or to the exclusive use of any water shall be acquired by any riparian owner or by any other person by length of use or otherwise than as the same may have been acquired or conferred under some former act or by license under this act. (1909, c. 48, s. 5.)

PART II.—THE UNIT OF MEASUREMENT, WATER DISTRICTS, AND WATER RECORDERS.

6. The discharge of 1 cubic foot of water per second shall be the unit of measurement of flowing water and the acre-foot the unit of measurement of quantity. (1909, c. 48, s. 6.)

6a. Applications for licenses for the diversion of water may state the quantity to be diverted in cubic feet of water per second, in acre-feet per annum, in gallons per day, or in miners' inches. (1912, c. 49, s. 5.)

7. It shall be lawful for the minister to divide the Province, or such parts thereof as may be convenient, into districts, to be called "water districts," and to define the boundaries thereof. (1909, c. 48, s. 7.)

7a. The minister may cause to be prepared in and for each water district, or any portion or portions thereof, a water-rights map, which shall show the location, points of diversion, conduits, places of user, and such works, references to records or licenses, and other particulars relating to the water in such district or portion of a district as the minister may deem advisable. (1912, c. 82, s. 4.)

8. The lieutenant governor in council may appoint a comptroller of water rights for the Province and engineers and water recorders for any one or more water districts. The comptroller of water rights shall have all the powers and authorities conferred upon water recorders under this act. (1909, c. 48, s. 8; 1912, c. 49, s. 2; 1913, c. 82, s. 5.)

PART III.—THE DETERMINATION OF EXISTING RIGHTS AND CLAIMS, AND THE CREATION OF A TRIBUNAL FOR THAT PURPOSE.

9. There shall be and there is hereby created a tribunal, to be named the "board of investigation" (hereinafter in this part of this act called "the board"), for the purpose of hearing the claims of all persons holding or claiming to hold records of water and all other claims and rights to the use of water under any former act or ordinance, of determining the priorities of the respective claimants, of prescribing the terms (not inconsistent with this act) upon which new licenses, replacing records under former acts, to take and use water pursuant to this act will be granted, and generally of determining all other matters and things in this act or by the lieutenant governor in council referred to the board for determination, and discharging such duties with respect to existing rights and claims as may be imposed upon the board, and with such powers and authorities for that purpose as are in this part of this act conferred. (1909, c. 48, s. 9; 1911, c. 59, s. 2; 1912, c. 49, s. 6; 1913, c. 82, ss. 6, 7.)

10. The board shall consist of a chairman and such other two or more persons as the lieutenant governor in council may for such periods of time and from time to time appoint. (1909, c. 48, s. 10; 1911, c. 59, s. 3; 1912, c. 49, s. 2; 1913, c. 82, s. 8.)

11. Two members of the board shall form a quorum, and not less than two members shall attend the hearing of any claim. (1911, c. 59, s. 4.)

12. The chairman, or some member of the board authorized by the minister, shall preside at all meetings of the board, and. if the board shall consist of an even number of persons, shall have a second or casting vote. (1909, c. 48, s. 11; 1911, c. 59, s. 5; 1913, c. 82, s. 9.)

13. The remuneration of the members of the board shall be in the discretion of the lieutenant governor in council. (1909, c. 48, s. 12.)

14. As soon as practicable after the appointment of the members of the board, they shall severally take the following oath:

"I, A. B., swear that I will fulfill and discharge the duties of a member of the board of investigation justly and according to the statutes and rules governing or prescribing my duties, to the best of my cunning, wit, and power, and that I will take nothing for my office but of the King or fees accustomed. So help me God."

which may be administered by any judge of the supreme or county court or by the comptroller of water rights, or the member of the board presiding at any meeting, if he shall have taken the oath, and they shall, as soon as convenient thereafter, meet for the transaction of business. (1909, c. 48, s. 13; 1912, c. 49, ss. 2, 7; 1913, c. 82, s. 10.)

15. The lieutenant governor in council may appoint such other persons (and prescribe their duties) as may be necessary to assist the board in the discharge of their duties. (1909, c. 48, s. 14.)

16. The board may from time to time make rules, not inconsistent with this act or any rules or regulations made by the lieutenant governor in council, for the regulation of business and the maintenance of order when hearing claims and determining rights and adjudicating thereon, and generally for the orderly transaction of their own business or that of others that may be brought before them. (1909, c. 48, s. 15.)

17. Repealed. (1912, c. 49, s. 8.)

18. Repealed. (1912, c. 49, s. 8.)

19. The minister may cause to be made on any stream a proper measurement of the low water, high water, and flood discharge, and an examination of all the works constructed for storing, carrying or utilizing water from each stream; and the report of such measurement and examination may be used by the board when inquiring into and determining rights and claims upon any stream. (1909, c. 48, s. 18; 1912, c. 49, s. 9; 1913, c. 82, s. 11.)

19a. The board may call upon any engineer who has made the examination referred to in the last preceding section, and upon the engineer and water recorder of the district, for all data in their respective possession relating to the said examination, and for any recommendation and advice in respect of any claim to which the said examination relates which is being investigated by the board. (1913, c. 82, s. 12.)

20. Repealed. (1912, c. 49, s. 10.)

21. The board shall be at liberty to make any personal examination of any stream or part of a stream or any works, and the board may act upon any such examination in determining rights and claims. (1909, c. 48, s. 20.)

21a. Where a record shall have been heretofore granted for the use of water for any specific purpose, and the water referred to in such record or some portion thereof shall have been actually enjoyed without interruption for the full period of 20 years for some other purpose than that for which it was recorded, but for which water might have been recorded, or where water claimed under a record which is lost or can not be produced has been actually enjoyed without interruption for some purpose for which such water might have been recorded for the full period of 20 years, the right to such waters respectively shall be absolute, and shall not be defeated by reason only that the record was for some other purpose than that for which it has been so used, or that the record is not produced (as the case may be), unless it shall be proved that the said water was so enjoyed by some consent or agreement in writing for that purpose entered into by some person entitled to such water and who could legally object to such enjoyment. (1913, c. 82, s. 13.)

22. The board shall, by advertisement in some local newspaper, give one month's notice of their intention to investigate claims to the water of any stream, giving all the names by which the stream has at any time been known, or, if unnamed, a good description thereof or specifying the locality as to claims within which the investigation will be held, and directing all persons having claims to water on such stream, or in such locality, on or before a certain date, to file their claims as herein provided. (1909, c. 48, s. 22; 1911, c. 59, s. 8; 1912, c. 49, s. 11; 1913, c. 82, s. 14.)

23. Repealed. (1912, c. 49, s. 12.)

24. The board shall fix the time and place for hearing claims and determining rights to water on each and every stream, and shall give such notice thereof to the persons who shall appear to the board to be interested as in their opinion shall be just, but in no case shall the notice be less than 30 clear days. The notice shall be given by registered letter addressed to the last-known residence of the person intended to be served and by advertisement in a local newspaper. In no case shall the form of the notice be called in question:

(*a*) Provided always that when holders of water rights request in writing the summary hearing of claims to water rights on a stream the board may fix the date of the hearing, and without advertising proceed to adjudicate as between such holders, after giving 10 clear days' notice of the date of the hearing by registered letter mailed to the last-known address of each such record holder.

(*b*) And provided further that the board may, by consent in writing, without notice, adjudicate at any time between persons whose water rights conflict. (1912, c. 49, s. 13; 1913, c. 82, s. 15.)

24A. Whenever by part III of this act a notice is required to be published in a local newspaper, a copy of such notice shall be posted in the office of the water recorder of each district affected. (1912, c. 49, s. 14.)

25. The board or any member thereof may administer oaths, take and receive affidavits, declarations, and affirmations in or concerning any matter or thing in or in any wise concerning any proceeding before them or relative thereto. (1909, c. 48, s. 24.)

26. The board may from time to time by writing, or by such notice as they may deem expedient, extend the time for hearing claims and adjudicating upon rights upon any particular stream, and, when in their opinion the justice of the case shall require, may, upon such terms as shall be deemed just, extend the time for any particular claimant or claimants to file his or their claims before the board. (1909, c. 48, s. 25; 1912, c. 49, s. 15; 1913, c. 82, s. 16.)

27. The board may meet and adjourn at their absolute discretion. In the absence of the others, any one member of the board may adjourn a sitting or meeting. In the absence of all members of the board, the water recorder of the district, or any person thereto authorized by the board, may adjourn the meeting to such time and place as he has been instructed by the board to adjourn it. If no such instructions have been received, the water recorder shall adjourn the meeting from day to day. (1909, c. 48, s. 26; 1912, c. 49, s. 16; 1913, c. 82, s. 17.)

28. (1) No particular form shall be necessary to bring on any claim before the board. It shall be sufficient if the claimant files with the board a statement of claim in writing in respect of each record, setting out—

(*a*) An exact copy of the record claimed or the reason why such copy is not given.

(*b*) A description of the particular land to which it is claimed the record is appurtenant.

(*c*) A sketch showing the position of the point of diversion and the dams, ditches, and flumes to the claimant's land.

(*d*) The character and brief descripttion of the works.

(*e*) The purpose for which the water has been used.

(*f*) The title to the land held by the grantee at the date of the record, including the date of preemptiton record or permission to purchase from the Crown.

(*g*) The title of the claimant to the land to which the record is appurtenant.

(*h*) The irrigable and the irrigated area of such land.

(*i*) The quantity of water claimed, expressed in miners' inches, cubic feet per second, gallons per day, or acre-feet per annum.

(2) Any number of persons claiming under one record may unite in a statement of claim. (1912, c. 49, s. 17; 1913, c. 82, s. 18.)

29. No special or particular form shall be necessary in the conduct of proceedings antecedent to the hearing or before the board or in the conduct or management of the board's business or any part thereof. (1909, c. 48, s. 28.)

30. The board may, among other things—

(*a*) Examine the claim presented for their consideration and hear evidence in support of and in opposition to each claim, respectively.

(*b*) Determine the priorities of the respective claimants to water out of any particular stream.

(*c*) Order the cancellation of the former records.

(*d*) Determine the quantity of water to which each claimant is entitled, having due regard to the claimant's other rights of supply of water and to existing storage works.

(*e*) Direct and establish the character of the works to be constructed by each claimant, having due regard to existing storage works.

(*f*) From time to time give such directions and make such orders as they may think necessary for the improvement of any works to prevent waste and insure stability.

(*g*) Direct the comptroller of water rights to issue a license to the claimant setting out the name of the stream, the particular hereditament or undertaking to which the license shall be appurtenant, the priority as determined, the purposes for which the water is to be used, the quantity or flow of water to which the claimant is entitled, the period of the year during which the water may be used, the point of diversion, a concise description of the works, and other terms and conditions respecting the right of the said claimant. (1912, c. 49, s. 18; 1913, c. 82, s. 19.)

30A. (1) Subject to the provisions of section 43 of this act, any license subject to adjustment under section 78 of this act, or any license which is incomplete, imperfect, irregular, or the terms of which are inconsistent with this act, and all rights claimed under such license, may by the board be reviewed, and the board may direct that the said license be amended and that a new license be issued replacing the said license and prescribing the terms and conditions (consistent with this act) respecting the new license.

(2) Before proceeding to review any license as provided in the last preceding subsection, the board shall notify the holder of such license in manner similar to that provided in section 34 of this act to file his claim with the board.

(3) The board shall fix a time and place to hear the matter, and may direct such notice thereof to be given as it thinks fit.

(4) Upon such review the board may deal with the claims under such licenses in the same manner as set out in section 30 of this act with regard to claims under records. (1913, c. 82, s. 20.)

31. The comptroller of water rights shall issue licenses to replace the former records or licenses as directed by the board. (1912, c. 49, c. 19; 1913, c. 82, s. 21.)

32. No error or defect in any record shall prejudice the right of any claimant to have his claim heard and determined by the board, provided there has been a bona fide application for water and such water has been used for some beneficial purpose. (1909, c. 48, s. 31.)

33. Without restricting the scope of the foregoing sections, the board shall hear and determine upon their merits all rights and claims submitted to them. (1912, c. 49, s. 20.)

34. In the event of any holder of a record neglecting to present a statement of claim to the board at the time fixed for the hearing the board shall take his rights into consideration and shall notify him in writing by personal service, or, if it is made to appear to the board that prompt personal service can

not be effected, by substituted or other service by letter, public advertisement, or otherwise, as the board may order, of its decision; and if he does not appear before the board within 30 days after the service of such notice, such decision shall stand and his former record shall be canceled and, if so ordered by the board, a license issued; if he do appear, he may be granted a rehearing on such terms as shall seem just to the board. (1912, c. 49, s. 21; 1913, c. 82, s. 22.)

35. In the event of any claimant appearing before the board and failing to establish his claim, any record held by him, any record held by him shall, without further notice, demand, or proceedings, be forfeited, and the entry of such record canceled, and his works if upon Crown lands, shall become forfeited to the Crown, and if not upon Crown lands shall become forfeited to and become the property of the owner of the land upon which the works are situate. (1909, c. 48, s. 34.)

36. No writ of certiorari shall be granted to remove any proceeding before the board save for excess or want of jurisdiction. (1909, c. 48, s. 35.)

37. No writ of prohibition shall issue directed to the board or any member thereof, save for excess or want of jurisdiction. (1909, c. 48, s. 36.)

38. Except on the information of the attorney general of the province, no provincial court shall, by injunction or any other process of the court, restrain or interfere with any claimant seeking to establish his claim before the board. (1909, c. 48, s. 37.)

39. The board shall keep minutes of its proceedings, including the evidence in support of and in opposition to any claim and generally of all matters brought before them for adjudication. (1909, c. 48, s. 38; 1912, c. 49, s. 22.)

40. The decisions of the board may, by leave of the supreme court or a judge thereof, be enforced in the same manner as a judgment or order of the court to the same effect. (1909, c. 48, s. 39.)

41. The supreme court or a judge thereof may, on petition signed and presented by the board setting out the facts, make any order necessary in the opinion of the court or a judge thereof to assist and enable the board to discharge the duties imposed upon the board by this act. (1909, c. 48, s. 40.)

42. An appeal shall lie to the court of appeal from every order or decision of the board, and the statutes and rules governing appeals from the judgment of a judge of the supreme court to the court of appeals shall apply to and govern all appeals from the board to the court of appeal. (1909, c. 48, s. 41.)

43. (1) The rights, records, powers, privileges, and priorities which have been acquired, had, exercised, and enjoyed by any municipality or power company for the purposes of its undertaking and works shall, so long as the same are used for such purposes, be vested in such municipality or power company, as the case may be.

(2) Subject as aforesaid, municipalities and companies holding records of water and whose works have been approved by the lieutenant governor in council, pursuant to the "water clauses consolidation act" (chapter 190 of the Revised Statutes, 1897), shall, on presentation to the board of their record and evidence of the approval of their works, and, in case of a company, of the bona fide exercise of its powers and privileges, be entitled to a license under this act for the same quantity of water and having the same priority as the record, and shall thereupon have all the rights and privileges conferred by this act on licensees whose works have been approved by the lieutenant governor in council and shall also be liable to the obligations imposed by this act on such licensees.

(3) Companies who made application before the 12th day of March, 1909, to a judge of the supreme court for a certificate under section 55 of the said "water clauses consolidation act," and have obtained such certificate, shall, upon presentation to the board of their record and of such certificate, be entitled to a license under this act, and shall thereupon have all the rights and privileges conferred by this act on licensees whose works have been approved by the lieutenant governor in council, and shall also be liable to the obligations imposed by this act on such licensees. (1909, c. 48, s. 42; 1912, c. 49; s. 23.)

44. If the holder of a record shall not have constructed the works necessary for the diversion of the water and shall not have put the water to which he is entitled to the beneficial use intended, the board may fix a time within which to begin and a time within which to complete the construction of such works as the board may order, and a further time within which to put the water to the beneficial use intended; and he shall not be entiled to a license in substitution for his record until he has filed with the comptroller of water

rights proof that such works have been so commenced and so completed, and that he water has been put to the beneficial use intended: *Provided*, That if within the time allotted proof is filed that a part only of the water applied for has been put to the beneficial use intended, he shall be entitled to a license in respect of such quantity of water as shall have been so put to beneficial use. (1913, c. 82, s. 23.)

45. If proof is not filed as required by the last-preceding section, the comptroller of water rights shall, without further notice, demand, or proceeding, declare the said record forfeited and the entry of such record canceled; and the works constructed under such record, if upon Crown lands, shall become forfeited to the Crown, and if not upon Crown lands shall become forfeited to and become the property of the owner of the land upon which the works are situate. (1912, c. 49, s. 25; 1913, c. 82, s. 24.)

46. Before the time fixed for the completion of the works and the putting of the water to beneficial use as aforesaid, an application to extend the time may be made to the board, but the board shall not entertain the application nor have any power to extend the time unless the applicant shall satisfy the board, upon oath, that the applicant has begun and diligently continued the work in perfect good faith and has been prevented by causes beyond his control from completing the works so ordered to be constructed as aforesaid. (1909, c. 48, s. 45; 1913, c. 82, s. 25.)

PART IV.—PRIORITY OF PURPOSE AND OF RIGHT IN ACQUISITION OF WATER.

47. The right to use water may be acquired upon application thereof to the water recorder for a license as hereinafter provided. (1909, c. 48, s. 47; 1912, c. 49, s. 2.)

48. Every license to take and use water shall be issued with due regard to the requirements of riparian proprietors for domestic purposes. (1909, c. 48, s. 46.)

49. After the 12th day of March, 1909, all applications for water shall be subject to the claims and rights as finally settled, and to the licenses issued by order of the board under part III of this act, and shall have precedence according to the time of the filing in the office of the water recorder for the district of a copy of the notices posted on the ground, and the licenses and the privileges thereby granted shall have precedence and priority according to the date of the said filing of the said notice, unless the contrary is stated in the license. (1911, c. 59, s. 10; 1913, c. 82, ss. 2, 26.)

50. Subject to the provisions of the last preceding section all licenses to use water shall issue with due regard to the purpose for which it is required, which shall have priority in the following order:

First. Domestic purposes as defined in section 2 of this act.

Second. Municipal purposes, which means and shall include the supply of water by a municipality or by any company to any municipality, city, town, village, or unincorporated locality for domestc purposes.

Third. Irrigation, which means and shall include the beneficial use of water on arable lands and meadows for nourishing crops.

Fourth. Industrial purposes, which means and shall include water required for the production of steam and all other purposes save domestic, municipal, irrigation, the production of power for sale, barter, or exchange, and mining.

Fifth. Power, which shall include the use of water for generating power for sale, barter, or exchange.

Sixth. Mining, which shall include any use of water in connection with mining.

Seventh. Clearing streams for driving logs.

Eighth. Lowering the level of any standing body of water for the purpose only of reducing the same.

Ninth. Utilization of mineral waters or the waters of springs. (1909, c. 48, s. 49; 1911, c. 59, s. 11; 1912, c. 49, s. 26; 1913, c. 82, s. 27.)

PART V.—PROCEDURE TO OBTAIN WATER LICENSES AND THE GENERAL RIGHTS ACQUIRED BY LICENSEES.

51. No license shall issue for more than one of the purposes mentioned in section 50 of this act. (1912, c. 49, s. 27.)

52. No license shall issue to any individual or partnership for the sale, barter, or exchange of water, except mineral water or the water of springs, as herein-

after provided, or of power generated from water. (1912, c. 49, s. 27; 1913, c. 82, s. 28.)

53. Licenses for the purposes mentioned in section 50 of this act may be acquired, under the procedure in this part provided, by individuals, partnerships, companies, and municipalities as follows:

(1) One or more licenses to take and use water for domestic purposes may be acquired by the owner of the hereditament upon which the water is to be used.

(2) One or more licenses to take and use water for municipal purposes may be acquired by a municipality authorized to have and exercise the powers and privileges conferred by Parts VII and VIII of this act, or by a company authorized to have and exercise the powers and privileges conferred by Part VII of this act.

(3) One or more licenses to take and use water for irrigation purposes, and one or more licenses to store water for the said purpose as hereinafter in this section provided, may be acquired by the owner of the particular hereditament on which the water may be used.

(*a*) One or more licenses to carry or store water for irrigation purposes may be acquired by a public irrigation corporation or by an irrigation company authorized to have and exercise the powers and privileges conferred by Part Xa of this act.

(4) One or more licenses to take and use water for industrial purposes may be acquired by an individual, partnership, company, or municipality.

(5) One or more licenses to take and use water for power purposes may be acquired by a municipality authorized to have and exercise the powers and privileges conferred by Part X of this act, or by a company authorized to have and exercise the powers and privileges conferred by Part IX of this act.

(6) One or more licenses to take and use water for mining purposes may be acquired by the lawful occupant of any mine on which the water or the power generated from the water is to be used.

(7) One or more licenses to clear streams for the purpose of driving logs may be acquired by an individual, a partnership, or a company, as provided in Part XI of this act.

(8) One or more licenses for lowering the level of any standing body of water for the purpose only of reducing the same may be acquired by an individual, partnership, company, or municipality.

(9) One or more licenses for the utilization, sale, barter, or exchange of mineral waters, or for the sale, barter, or exchange of the waters of springs, can be acquired by an individual, partnership, or company thereunto authorized by the minister.

Provided, That an Indian agent may acquire, in trust for Indians located on any Indian reserve, one or more licenses to take and use water for domestic, irrigation, or industrial purposes, subject to the provisions of sections 299, 300, 301, and 302 of this act.

Provided further, That any person who has applied to purchase or preempt or acquire Crown or Dominion lands may make his application under this section for a license before the issue to him of the certificate of purchase or preemption record or homestead entry or other evidence of right or title to the said lands.

And provided further, That any licensee or applicant for a license to take and use water may apply for one or more licenses to store or pen back during such periods of the year as the said licenses shall specify sufficient unrecorded water to supply the flow or quantity which the licensee or applicant is or may be authorized to take and use. (1913, c. 82, s. 29.)

54. The applicant for a license to take and use water shall, at the conspicuous points in the neighborhood of the point of diversion and of the proposed place of user, post a notice of his intentin to apply for such license. The notice need not follow any particular form, but shall contain or describe—

(1) The name and address of the applicant.

(2) The water recorder's office in which the application will be filed.

(3) The name or a clear description of the stream from which the water will be diverted.

(4) The quantity of water in acre-feet per annum, cubic feet per second, gallons per day, or miners' inches applied for.

(5) The point of diversion.

(6) The purpose or purposes for which the water will be used.

(7) The premises where the water will be used, or the territory within which the water or the power generated from the water will be sold, bartered, or exchanged.

(8) The date when the notice was posted on the ground. (1912, c. 49, s. 27; 1913, c. 82, s. 30.)

55. An applicant for a license to store or pen back water or for lowering the level of water shall, at conspicuous places in the neighborhood of the point of diversion or proposed point of diversion and of the proposed place of user, post notice of his intention to apply for such license. The notice need not follow any particular form, but shall contain and describe, where the application is for a license to store or pen back water—

(1) The name and address of the applicant.

(2) The water recorder's office where the application will be filed.

(3) The name or a clear description of the stream from which the water will be diverted.

(4) The capacity of the proposed reservoir, expressed in acre-feet or gallons.

(5) The situation of each reservoir site.

(6) The purpose or purposes for which the water will be used.

(7) The premises where the water will be used, or the territory within which the water or the power generated from the water will be sold, bartered or exchanged.

(8) The date when the notice was posted on the ground.

And where the application is for a license for lowering the level of water—

(1) The name and address of the applicant.

(2) The water recorder's office where the application will be filed.

(3) The name or a clear description of the body of water the level of which is to be reduced.

(4) The date when the notice was posted on the ground. (1912, c. 49, s. 27; 1913, c. 82, s. 31.)

56. The notices prescribed by the last two preceding sections and sections 71 and 90 of this act, or any two or more of them, and the particulars therein respectively required may be combined in one notice. (1912, c. 49, s. 27; 1913, c. 82, s. 32.)

57. Forthwith after the posting of any notice mentioned in sections 54 and 55 of this act, notice to the same effect shall be filed in the office of the water recorder for the district in which the point of diversion or proposed point of diversion is situate, and shall be published once a week for four weeks in a local newspaper; and if the application is for a commercial license, for two weeks in the Gazette. (1912, c. 49, s. 27.)

58. When the point where water is intended to be diverted or stored is situate in one district, and in its course to the point where it is intended to be used it flows through any one or more districts, the applicant shall post and publish the notices required by sections 54 and 55 of this act, or any rules made thereunder, in every district through which the water flows from the point of diversion or storage to the point of user, both inclusive. (1912, c. 49, s. 27.)

58A. If the said notice shall have been published in a local paper circulating in the water district, but shall not have been published in manner required by sections 57 and 58, the comptroller, if satisfied that the failure so to publish the said notice was accidental or due to inadvertence, or to some other sufficient cause, may extend the time for the publication required by the said sections. (1913, c. 82, s. 33.)

59. Within 10 days after the first appearance of every such notice in the local newspaper, the applicant shall file in the office of the said water recorder an application in duplicate pursuant to such notice, and a sketch in duplicate showing approximately the course of the stream, the location of the proposed dams, ditches, flumes, pipes, or other conduits, and the lands affected by the same. Such sketch need not be drawn to scale. (1912, c. 49, s. 27; 1913, c. 82, s. 34.)

60. The application shall be on printed forms to be supplied by the water recorder, and shall contain and describe—

(1) The full name and address of the applicant.

(2) A clear description of the stream, with its name or names (if any).

(3) The quantity of water, expressed in acre-feet per annum, cubic feet per second, gallons per day, or miners' inches applied for.

(4) The point of diversion.

(5) The dams, ditches, flumes, pipe, or other conduits.

(6) The purpose for which the water will be used.

(7) The lot or section number or other accurate description of the land or mine where it is proposed to use or lower the water, or of the territory within which the water or power generated from the water will be sold, bartered, or exchanged.

(8) A general description of the lands which may be affected by the construction of the dams, ditches, flumes, pipes, or other conduits.

(9) The length and breadth or area of the right of way required over Dominion or provincial Crown land which will be affected by the said works.

(10) The length and breadth or area of the right of way required over private lands not owned by the applicant which will be affected by the said works.

(11) The date of the filing in the water recorder's office of the notice or notices.

(12) The date of the first publication of the notice in the local newspaper, and the name of the newspaper and the place of the publication.

(13) The address to which notices to the applicant may be mailed.

Or such of the said particulars as are applicable to the license applied for.

If the newspaper is published more than 50 miles from the water recorder's office item (12) may be omitted.

If the application is for the storing or penning back of water, it shall contain, in addition—

(14) A description of each reservoir site.

(15) An estimate of the area of each reservoir when full.

(16) The probable length and height of each dam. (1912, c. 49, s. 27; 1913, c. 82, s. 35.)

61. The applicant shall, within 50 days from the first publication of the notice in the local newspaper, file with the comptroller of water rights—

(1) Proof of the posting and publication of the notices and a printed copy of the notice in the local newspaper.

(2) If the application is for a license other than for lowering the level of water, a list of all water records or licenses, if any exist, appurtenant to the hereditaments or held in connection with the undertaking for which the water will be used.

(3) If the applicant is a company, a copy of its memorandum of association and a statutory declaration showing that the company is authorized to carry on business in the province, and the amount of the company's paid-up capital.

(4) If the application is for domestic purposes, a statement of the number of persons and of cattle to be supplied with water.

(5) If the application is for municipal purposes, a statement of the area and population of the territory to be supplied.

(6) If the application is for irrigation, a statement of the approximate acreage of the irrigable portion of the land to which the license shall be appurtenant.

(7) If the application is for industrial, power, or mining purposes, a statement of the place where the water will be returned to a natural channel, and an estimate of the available head of water.

(8) If the application is for water to be used for industrial, mining, or power purposes, such a statement of the particular use to which the water or the power generated is to be put as will show whether the quantity applied for is reasonable.

(9) If the application is for power purposes, a statement of all the data in the possession of the applicant regarding the discharge of the stream, the available head of water, and the capacity of the reservoir site.

(10) If the application is for water to be used for municipal purposes or for supplying water for the domestic use of more than 50 persons, a certificate from the secretary of the provincial board of health that the water to be diverted is fit for human consumption.

The applicant shall, within the said period of 50 days, pay to the comptroller of water rights the record fee for the amount of water applied for. If the applicant shall have paid the said record fee within the said period, but not otherwise, and shall not have filed everything required by this section, the comptroller may grant an extension of time for the filing of the particulars which have not been filed. (1912, c. 49, s. 27; 1913, c. 82, s. 36.)

62. (1) The water recorder in whose office the application is filed shall indorse on the duplicate application the date of filing; he shall retain one of these duplicates in his office, and shall without delay forward the other dupli-

cate and a copy of the notice of the intention to apply for the license filed in his office to the comptroller of water rights.

(2) Any person may examine or take copies of such applications without the payment of any fee. (1912, c. 49, s. 27; 1913, c. 82, s. 37.)

63. Any individual, partnership, company, or municipality whose rights would be injuriously affected by the issue of the license applied for may, within 30 days of the first appearance of the notice in a local newspaper, file with the water recorder in whose office the application is filed or with the comptroller of water rights an objection setting forth the grounds of objection. The said water recorder shall without delay forward a copy of every objection filed with him to the said comptroller.

The comptroller shall consider the objection, and if in his opinion the alleged grounds of complaint are not prima facie sufficient to warrant an inquiry shall so decide, and shall notify the objector in writing of such decision. If the comptroller considers the alleged grounds are sufficient to warrant inquiry, he shall fix a day for the hearing of the objection before himself, or before the said water recorder or before some person appointed by the minister. The person hearing the objection may adjourn such hearing until the applicant has submitted plans of the proposed works, or for the purpose of obtaining further evidence may summon and examine witnesses upon oath or affirmation, and may dismiss the objection, or may find that the objection is sufficient to justify the refusal or a modification of the license applied for. (1912, c. 49, s. 27; 1913, c. 82, s. 38.)

64. The comptroller, upon the filing with him of what is required by section 61 hereof—

(1) Shall take into consideration the notice of the intention to apply for a license, the application, the decision upon the said objections, any prior applications still pending, the unrecorded water in the stream, what other sources of supply are available to the aplicant, the possibility of storage, and any other material information brought before him or which he may have; and

(2) May refuse the application; or

(3) May grant a permit to make surveys upon such terms as he may think fit, and therein determine the time within which the said surveys shall be made, and the plans of the works required for the diversion, carriage, storage, or lowering the level of the water shall be submitted to him for approval, and the time within which the application to the minister for the approval of the undertaking shall be made under Part VI of this act.

(4) Settle the priority of the application and of any license which may be issued thereunder. (1913, c. 82, s. 39.)

65. (1) If the water recorder is satisfied that all parties interested have been notified, it shall be lawful for him, by writing, to authorize the applicant to dispense with the advertisement required by section 57 of this act when the application is for water for mining purposes and is for not more than 8 cubic feet per second, or when the application is for water for domestic purposes and is for 500 gallons or less per day. Such authority shall be recorded, and a fee of $1 shall be paid therefor by the applicant.

(2) A license to take and use water for mining purposes, when such advertisement is dispensed with under this section, shall not be for a longer period than one year, but the said license, on the payment of the annual rental, may be renewed from year to year at the discretion of the comptroller without further notice. (1913, c. 82, s. 40.)

66. Whenever the requirements of a riparian proprietor for domestic purposes are in question, the comptroller of water rights or the board, as the case may be, shall fix the quantity to which he is entitled, and may fix the means of conveyance thereof. (1913, c. 82, s. 41.)

67. The lieutenant governor in council, upon being satisfied upon oath or statutory declaration, that good reason exists for delay in the survey and preparation of the plans and their submission for approval, may extend the time for the commencement of the survey and the submission of the plans for such period, and on such terms, and with such precedence as to him shall seem just. (1912, c. 49, s. 27.)

68. If the said surveys are not made or the said plans are not submitted within the time fixed by the permit under section 64 of this act, or the extension granted under the last preceding section, the rights of the applicant shall cease, and the permit shall become null and void without further notice, demand, or proceeding. (1912, c. 49, s. 27.)

69. The applicant shall, on the issue of such permit, forthwith proceed to have surveys and plans made of the works by which it is proposed to divert, store, carry, use, lower the level of, sell, barter, or exchange the water or the power produced or generated from the water therein mentioned:

Provided, That if the applicant proposes to store, divert, or carry the water or the power generated from the water through or partly through works the plans of which have been approved under this act, it shall not be necessary to survey or make plans of these works if the comptroller is satisfied that the said works are ample and safe for the storage and carriage of the additional quantity of water. (1912, c. 49, s. 27; 1913, c. 82, s. 42.)

70. (1) The applicant shall, within the time granted him, file with the comptroller of water rights and with the water recorder of each district in which the works are situate a statement in writing and plan which, taken together, shall contain the following information:

(*a*) The route by which the water or power is to be carried.

(*b*) The position of the works.

(*c*) The particular hereditaments (if any) upon which the water is to be used.

(*d*) Where water or power is to be sold, bartered, or exchanged the territory (if any) within which the water or power is to be sold, bartered, or exchanged.

(*e*) Each parcel of land crossed or touched by the works, with the name of the registered owner and the area of land to be occupied.

(*f*) The position of all public works, highways, and private roads along or across which the works are to be constructed.

Provided, That if it is proposed to carry or store or pen back the water by or in works already constructed the applicant, in lieu of the above information, shall file the consent in writing of the proprietor of the said works to such carriage, storage, or penning back.

(2) If the application is for a commercial license the applicant shall at the same time file with the comptroller plans and specifications of all dams, headworks, spillways, bridges, and culverts in such detail that the construction of the works might be carried out from them.

(3) The said statement and plan may be filed before the issue of the permit to survey. (1912, c. 49, s. 27; 1913, c. 82, s. 43.)

71. (1) If the application is for a noncommercial license the applicant shall serve a notice on each person whose land will be touched or in any way affected by the works.

(2) If the application is for a commercial license the applicant shall serve a notice on each person whose land will be touched or in any way affected by the works, and shall publish a notice in two issues of the Gazette and once a week for four weeks in a local newspaper.

(3) In every case the notice shall state that the applicant has filed in the office of the water recorder at (naming the place or places) and in the office of the comptroller of water rights at Victoria particulars and plans of the works for the diversion of water from the stream (naming or describing it), and shall describe the place where the water is to be used or where power is to be generated from the water. (1912, c. 49, c. 27.)

72. Any individual, partnership, company, or municipality who would be injuriously affected by the issue of a license may, within 30 days after being served with the notice mentioned in the last preceding section, or within 30 days after the first appearance of the notice in the local newspaper, file with the comptroller of water rights an objection in writing setting out fully and in detail the grounds of the objection. The comptroller shall consider the objection, and if in his opinion the grounds of complaint are prima facie sufficient to warrant inquiry, shall set a day for a hearing before himself, or shall authorize the water recorder or some person appointed by the minister to take evidence and to report to the comptroller. The comptroller, after the said hearing before himself, or after considering the said report, may dismiss the objection or may find that the objection is sufficient to authorize the refusal or modification of the license applied for. If the comptroller does not consider the grounds of complaint sufficient he shall notify the objector by letter. (1912, c. 49, s. 27; 1913, c. 82, s. 44.)

73. After the said objections have been dealt with the comptroller shall take into consideration the notice; the application; the decision upon the objections; the conditions imposed in the permit issued under secton 64; any consent in

writing for the storage, penning, or carriage of water on works already constructed which may have been filed; and may require further evidence; may make such additions, alterations, deviations, and limitations in the plans and particulars as may seem to him necessary in the public interest; may refuse the application, or may approve the plans as submitted or as amended; and may set a time within which the works shall be commenced, a time when the said works shall be completed, and a further time within which proof shall be filed with the comptroller of water rights of the quantity of water which has been put to the use mentioned in the application for the license. (1913, c. 82, s. 45.)

74. (1) After the approval of the plans the comptroller of water rights shall issue to the applicant a conditional license or licenses under this part having the precedence therein mentioned, and the said license shall be conditional upon compliance with the terms imposed by the said comptroller under the last preceding section.

(2) The holder of a conditional license shall have all the rights and shall observe all the obligations, duties, and limitations imposed on licensees by this act.

(3) The conditional license granted by the comptroller shall contain the following particulars:

(*a*) The source of the water supply.

(*b*) The point of diversion.

(*c*) The date from which the right shall take precedence.

(*d*) The purpose for which the water is to be used.

(*e*) The maximum quantity of water which may be used.

(*f*) The period of the year during which the water may be used.

(*g*) The area and description of the lands or hereditaments upon which the water may be used.

(*h*) The other terms and conditions respecting the use of the water.

(*i*) The date of the commencement and the date of the completion of the works to be constructed for the diversion and the carriage of the water.

(*j*) The date when proof of completion of the said works and of the putting of the water to a beneficial use shall be filed in the office of the comptroller.

(4) The holder of a conditional license shall not be entitled to a final license in substitution for his conditional license unless and until he has filed with the comptroller of water rights the proof required as aforesaid of the completion of the works and the putting of the water to the beneficial use intended: *Provided*, That if within the time allotted proof is filed that a part only of the water applied for has been put to the beneficial use intended, the holder shall be entitled to a final license in respect of such quantity of water as shall have been so put to beneficial use.

(5) If proof is not filed as required by the last preceding subsection, the comptroller of water rights shall, without further notice, demand, or proceeding, declare the said conditional license forfeited and the entry of such conditional license canceled; and the works constructed under such conditional license, if upon Crown lands, shall become forfeited to the Crown, and if not upon Crown lands, shall become forfeited to and become the property of the owner of the land upon which the works are situate.

(6) Before the time fixed for the completion of the works as aforesaid, an application to extend the time may be made to the comptroller, but the comptroller shall not entertain the application nor have any power to extend the time unless the applicant shall satisfy the comptroller, upon oath, that the applicant has begun and diligently continued the work in good faith, and has been prevented by causes beyond his control from completing the works so ordered to be constructed as aforesaid. (1913, c. 82, s. 46.)

75. A license for municipal or power purposes for any quantity of water, or a license to a company for industrial purposes when the quantity applied for exceeds 10 cubic feet per second, shall not issue unless and until the undertaking has been approved by the minister under Part VI of this act. (1912, c. 49, s. 27; 1913, c. 82, s. 2.)

76. The grant of a license to take and use water shall include the right to the licensee to divert the water included in the license at the point of diversion. (1912, c. 49, s. 27.)

77. The grant of a license to take and use water shall entitle the holder to the flow of so much of the specified quantity of water in the stream at the point of diversion as he can beneficially use, which right shall not be prejudiced by subsequent grants at higher points on the stream or any tributary thereof. (1912, c. 49, s. 27; 1913, c. 82, s. 47.)

78. All licenses granted under this part of this act to take, use, store, or pen back water shall be subject to subsequent adjustment by the comptroller of water rights after a hydrographic survey of the stream has been made. Such adjustment shall, however, where the water is used for irrigation, be made with due regard to the duty of water on the hereditaments watered by the stream, and in all cases without changing the priority of the license. (1912, c. 49, s. 27.)

79. Subject to any obligations hereinafter imposed, the rights and powers herein conferred shall, when mentioned in the license, but not otherwise, include the right or power to store water and to lower lakes and other standing bodies of water below their normal level, and to construct the works authorized and approved in respect thereof. (1912, c. 49, s. 27.)

80. A license to take or use water shall not confer any right to the use or diversion of mineral water unless expressly mentioned in the license. (1912, c. 49, s. 27.)

81. Any holder of a license or record may obtain permission from the comptroller of water rights to change the point of diversion of the water used by him, or the course of his ditch, flume, or other conduit, on giving such notices and complying with such terms as the said comptroller may require or impose. (1912, c. 49, s. 27.)

82. Whenever a licensee or the owner of a segregated portion of the land to which a license is appurtenant desires to have the water apportioned between two or more parts of the hereditaments in respect whereof the license was originally obtained, he may apply to the comptroller of water rights for an apportionment, and the comptroller, on its being proved to his satisfaction that the rights of others will not be prejudiced or imperiled, may, after notice to all persons interested, amend the license originally granted, or may issue two or more licenses to conform to the apportionment permitted. Such new licenses shall not authorize, in the aggregate, the diversion of more water than the quantity permitted to be diverted by the original license, and shall be dated as of the same date and have the same priority as the original license. (1912, c. 49, s. 27.)

83. (1) Any licensee or the holder of a permit under section 64 of this act may enter upon Crown lands, or any other lands howsoever and by whomsoever held, for the purpose of surveying the location of the point of diversion, the place of storage, and the route for the carriage of water as part of any works proposed to be constructed, doing as little damage as possible and fully compensating any company, municipality, or person for any loss, damage, or injury by reason of such entry; and if the amount of compensation be not agreed upon, it shall be settled by arbitration pursuant to the "arbitration act."

(2) Before entering on the lands of private owners the licensee or holder of the said permit shall give adequate security for the payment of any compensation for loss, damage, or injury to such private owner by reason of such entry. (1912, c. 49, s. 27.)

84. The licensee, subject to and in conformity with this act and the authority received from the comptroller of water rights, or by the certificate of the lieutenant governor in council or the minister as in this act prescribed, may construct any works necessary to beneficially use the water referred to in his license. (1912, c. 49, s. 27; 1913, c. 82, s. 2.)

85. (1) Any two or more record holders or licensees may, subject to the prior rights of other holders, upon such terms as may be agreed upon, join together in constructing the works necessary to carry the water to their respective lands, and may mingle such waters.

(2) Any holder of two or more records or licenses, or any person, partnership, or company owning the lands to which water records or licenses are appurtenant, may construct works to carry the waters held under the records or licenses, and may mingle such waters.

(3) Any company organized for the purpose of the carriage of waters held under records or licenses may, upon, but not without filing their plans in connection with such carriage with, and obtaining the approval thereof by, the comptroller of water rights, and obtaining the approval of their undertaking by the minister, construct works to carry such water, and may mingle such waters.

(4) No agreement or undertaking pursuant to this section shall enlarge as to quantity the rights of any record holder or licensee as fixed by the record or license.

(5) When two or more record holders or licensees desire to join together in constructing works under this section, or when the owners of lands to which water records or licenses are appurtenant are using the same works for diverting, storing, or carrying the water thereunder granted them, they may form a partnership under this act, to be known by the firm name of "The (naming it) Irrigation Community," by subscribing and filing with the water recorder articles of partnership.

(6) Such community shall, unless otherwise agreed upon, be deemed a yearly partnership renewable from year to year by tacit consent.

(7) A partner in any such irrigation partnership, or his agent authorized in writing, shall at any meeting thereof be entitled to vote upon the interest which the partner may hold therein, but the result of the votes shall be determined by the number of the interests voted upon and not by the number of partners voting at such meeting.

(8) The interest which each partner shall have in the irrigation community shall be based on the number of acres which he shall have the right of irrigating under the records, licenses, or permits authorizing the diversion of water through the works of the partnership, each acre or part of an acre being deemed an interest.

(9) A majority of the votes may decide upon the method in which the works shall be constructed and maintained and what repairs or renewals shall be effected, and may levy assessments therefor respectively and for the expenses of the partnership, and may determine the extent and manner of levying the said assessments and when the same shall be payable. Such majority may also choose a manager who shall represent the partnership and may sue and be sued in the name of the partnership for assessments and otherwise, and he shall have power to bind the partnership with his contracts.

(10) All such assessments shall be payable before the first day of June in each year.

(11) Any partner making default in payment of any assessment after receiving a notice from the manager certifying the amount due by him shall, if such amount be correct, be personally liable therefor to the partnership, and may be sued therefor in any court of competent jurisdiction. (1912, c. 49, s. 27; 1913, c. 82, ss. 2, 48.)

86. Whenever a license is granted for the use of water upon any particular hereditaments, such license shall be deemed to be appurtenant to the hereditaments in respect whereof such license is granted, and shall pass with any demise, devise, conveyance, alienation, or transfer of the said hereditaments. (1912, c. 49, s. 27.)

87. The production of the license, or of a certified copy of the counterfoil thereof in the water recorder's office, shall, without further proof, be evidence in all courts of the matters and things therein mentioned. (1912, c. 49, s. 27.)

88. Any person aggrieved by or dissatisfied with any order made by the comptroller of water rights or water recorder under this part may appeal therefrom to the minister in manner hereinafter prescribed. (1912, c. 49, s. 27.)

PART VI.—PROCEDURE TO OBTAIN APPROVAL OF THE UNDERTAKING OF A MUNICIPALITY OR A COMPANY.

89. (1) If under this act the undertaking of a municipality or company requires the approval of the minister before the issue of a license, the applicant may petition for such approval at any time after the filing, under sections 59 and 60 of this act, of its application for a license.

(2) Any municipality or company holding a license issued before the 27th day of February, 1912, which has not obtained the approval of its undertaking, may petition the minister for such approval under this part.

(3) The petition shall be filed with the comptroller of water rights, and a copy thereof filed in the office of the water recorder for the district, and the said petition shall be verified by oath, and shall contain or be accompanied with such information as may be required by the minister or by rules and regulations made under this act by the lieutenant governor in council. (1913, c. 82, s. 49.)

90. Notice of the filing of the said petition to the minister shall, within 30 days after the said filing, be given by advertisement published in the Gazette and once a week for four weeks in a local newspaper before the petition is heard, and a copy of the said notice shall be filed in the office of the water recorder for the said district and in the office of the comptroller. The notice

shall state that a copy of the petition is on file in the office of the water recorder of the district (naming it) and in the office of the comptroller at Victoria. (1913, c. 82, s. 50.)

91. Any municipality, company, partnership, or person may file with the comptroller of water rights an objection to the undertaking, or any part or parts thereof, intended to be submitted to the minister for approval as aforesaid. Such objection shall set out fully and in detail the grounds of the objection, and shall conform to any rules on the subject. (1912, c. 49, s. 27; 1913, c. 82, s. 2.)

92. (1) The board of investigation shall hear the said petition and any objections thereto, and may postpone or adjourn the hearing of the said petition from time to time as may be deemed expedient; and may recommend the approval of the undertaking as submitted, or may require further evidence, may direct references and inquiries, and shall report their recommendations to the minister.

(2) The minister may make or order to be made additions, alterations, deviations, and limitations in the plan and the proposed works, and, without limiting the generality of the foregoing, may generally give such directions, impose such restrictions, limitations, and conditions, and make such orders as may in the public interest be deemed just. (1913, c. 82, s. 51.)

93. The minister may issue a certificate under his hand setting forth that the proposed undertaking as submitted has been approved, or that the same has been approved subject to division into parts, and the alterations, limitations, restrictions, and conditions in such certificate contained. (1912, c. 49 s. 27; 1913, c. 82, ss. 2, 52.

94. If it be intended to issue such certificate to a company, then in and by such certificate the following matters and things shall be determined and set out therein:

(*a*) The amount of the capital of the company which shall be subscribed and the amount which shall be actually paid up before the company shall begin the construction of the works; or

(*b*) If the work has been divided into parts, then the amount of capital which shall be subscribed and the amount which shall be actually paid up in respect of each part before beginning the works on each particular part.

(*c*) The time within which the works shall be begun, and if divided, then the time within which each part shall be begun.

(*d*) The time within which the works shall be completed and in actual operation.

(*e*) The territory within which the company may exercise its powers. (1912, c. 49, s. 27.)

95. If a certificate shall have been issued in respect of part only of the undertaking, or if the applicant for such certificate shall desire to have the same amended, varied, or altered, a further certificate or certificates may from time to time be issued, or such amendment, variation, or alteration made, by the minister upon the applicant following the procedure laid down in sections 89 to 92 of this act: *Provided*, That before any further certificate is granted or such amendment, variation, or alteration made, the applicant shall produce to the comptroller the original certificate, and the comptroller shall note thereon a reference to such further certificate and to every addition, amendment, variation, or alteration. (1913, c. 82, s. 53.)

96. A copy of every such certificate mentioned in the last three preceding sections, certified under the hand of the minister, shall be filed with the comptroller of water rights, the water recorder of the district or districts where the works are to be constructed, and such other person as the rules may require, and in the case of companies with the registrar of joint-stock companies, and shall be published in the Gazette and in a local newspaper in each district included in the territorial limit of the undertaking. (1912, c. 49, s. 27; 1913, c. 82, s. 54.)

97. The minister may from time to time, on petition presented for that purpose, extend the time for the construction and completion of the works or any part thereof. (1913, c. 82, s. 55.)

98. Upon the grant of the first or any subsequent certificate by the minister and the issue of a license, the municipality or company, subject to such certificate and any addition, amendment, variation, or alteration thereof, shall have, hold, and enjoy all the rights, powers, and privileges conferred upon companies licensed to take and use water for a similar purpose under this act. (1912, c. 49, s. 27; 1913, c. 82, ss. 2, 56.)

99. Save when the minister has extended the time as aforesaid, if the works in this part of this act referred to be not commenced within six months of the

time fixed by the certificate, or if the said works be not completed within the time fixed by the certificate, or any extension of such time, the minister may declare such license and certificate null and void, and the same shall be canceled in the register of licenses and be delivered up by the licensee. There shall be an appeal to the lieutenant governor in council from the decision of the minister under this part. (1912, c. 49, s. 27; 1913, c. 82, s. 57.)

PART VII.—GENERAL POWERS AND PRIVILEGES OF MUNICIPALITIES AND COMPANIES USING WATER FOR DOMESTIC PURPOSES.

100. Any municipality or company which has obtained a certificate of the approval of an undertaking for the taking and using of water for municipal purposes, and has been granted under Part V of this act a license for the said purpose, may, upon the terms and conditions and for the purposes specified in the said certificate and the said license, and subject to the obligations, duties, and limitations hereinafter imposed, enter upon, take, and use Crown lands and other lands as provided for in Part XIII of this act, and may exercise the general powers and privileges in this part conferred. (1913, c. 82, s. 58.)

101. The municipality or company may, after the issuance of the said license, construct their works in, upon, through, over, and under any lands referred to in the map or plan submitted at the time when the application was made for the approval of the approval of the works, and subject to the obligations hereinafter imposed shall, for that purpose, have the right of ingress, egress, and regress in, upon, through, over, and under said lands and to do and perform all such acts and things as may be necessary for the purpose of so constructing their works. (1909, c. 48, s. 98; 1912, c. 49, s. 29.)

102. The municipality or company may further, after the issuance of the said license, upon the terms and conditions and in manner hereinafter provided, ascertain, set out, purchase, and, if necessary, enter upon, take, and use all such lands as may be necessary for—

(*a*) Maintaining, altering, improving, or repairing their works.

(*b*) Opening new streets required for their works.

(*c*) The protection of their works.

(*d*) Preserving the purity of the water supplied by them to the inhabitants.

(*e*) Providing for the efficient distribution of the water to the inhabitants. (1909, c. 48, s. 99; 1912, c. 49, s. 30.)

103. All service pipes which may be required shall be constructed and laid down up to the outer line of the street by the municipality or company, and the municipality or company shall be solely responsible for keeping the same in repair. (1909, c. 48, s. 100.)

104. In all cases where a vacant space intervenes between the outer line of the street and the wall of the building or other place into which the water is to be taken, the municipality or company may, with the consent of the owner, lay the service pipes across such vacant space and charge the cost thereof to the owner of the premises, or such owner may himself lay such service pipes, provided the same is done to the satisfaction of the municipality or company, or person appointed by them in that behalf. (1909, c. 48, s. 101.)

105. The occupier of the house, building, or premises supplied with water shall, if he desires to use water, at his own cost construct all other works necessary to receive the water at the outer part of the wall of the house and distribute it as he may desire throughout the premises, and shall keep all such works in a good and sufficient state of repair. (1909, c. 48, s. 102.)

106. The expenses incidental to the laying and repairing, as hereinafter provided, of such service pipes, if laid or repaired by the municipality or company (except the repairing of the service pipes from the main line to the outer limit of the street as aforesaid, which shall be borne solely by the municipality or company), or of superintending the laying or repairing of the same if laid or repaired by any other person, shall be payable by the owner on demand to the municipality or company, or, if not so paid, may be collected forthwith in the same manner as water rates: *Provided*, That in no case shall the said expenses of superintending the laying or repairing of such service pipe, if laid or repaired by any other person as aforesaid, exceed $1. (1909, c. 48, s. 103.)

107. Any stopcock placed by the municipality or company inside the wall or building shall not be used by the consumer, save in case of accident or for the prevention of flooding or waste or for the general protection of the building. (1909, c. 48, c. 104.)

108. Any person supplied with water by the municipality or company may be required to place and use only such taps for drawing and shutting off water as are approved by the municipality or company. (1909, c. 48, s. 105.)

109. Any person authorized by the municipality or company for that purpose shall have free access at proper hours of the day, and upon reasonable notice given and request made, to all parts of every building or other premises in which water is delivered and consumed, for the purpose of inspecting or repairing the works, or for placing meters upon any service pipe or connection within or without any house or building, as may be deemed expedient; and for this purpose or for the purpose of protecting or of regulating the use of any such meter may set or alter the position of the same, or of any pipe connection or tap, and may fix the price to be paid for the use of any such meter, and the times when and the manner in which the same shall be payable, and may also charge for and recover the expenses of such alterations, and such price and the expenses of such alterations may be collected in the same manner as water rates. (1909, c. 48, s. 106.)

110. The municipality or company shall regulate the distribution and use of the water in all places and for all purposes where the same may be required, and from time to time shall fix the prices for the use thereof and the times of payments, and they may erect such number of public hydrants and in such places as they shall see fit, and direct in what manner and for what purpose the same shall be used, all of which they may change at their discretion, and may fix the rate or rent to be paid for the use of the water by means of hydrants or fire plugs and by public buildings. (1909, c. 48, s. 107.)

111. All the moneys due for the supply or use of water, herein called "a water rate," and all costs and charges in connection therewith, shall be a charge on the land, building, and premises where the water is supplied, and may, if due to a municipality, be levied and collected in the same manner as municipal rates and taxes are by law recoverable, and if due to a company may, in addition to all other remedies given by this act, be recovered by action in any court of competent jurisdiction, and the municipality or company may further shut off the water from the premises. (1909, c. 48, s. 108.)

112. The municipality or company may from time to time make and enforce by-laws, rules, and regulations, not inconsistent with this act or any rules made hereunder, for—

(*a*) The general maintenance, management, and conduct of the undertaking, business, and works.

(*b*) The conduct of all persons employed in connection with the undertaking and works.

(*c*) Establishing the rates to be paid by consumers.

(*d*) The nature, extent, and modé of supply.

(*e*) The mode of collection of rates.

(*f*) Providing for the time when and the place where the rates shall be poyable.

(*g*) Shutting off water for nonpayment of rate.

(*h*) The purpose of preventing waste.

(*i*) Thepurpose of discovering and preventing dishonesty and fraud with respect to the supply of water to consumers.

(*j*) All other purposes within the scope of the undertaking. (1909, c. 48, s. 109.)

113. The municipality or company shall not be liable for damages caused by the breaking of any service pipes or attachment, or for any shutting off of any water to repair mains or to tap the mains, if, whenever the same is shut off more than six hours at any one time, reasonable notice of the intention to shut off the water is given. (1909, c. 48, s. 110.)

114. The municipality or company shall have power and authority to supply, upon special terms, any corporation or persons with water for domestic purposes, although not resident within the municipality or unincorporated locality, and may exercise all other powers necessary to the carrying out of their agreement with such corporation or persons, as well without as within the municipality or unincorporated locality, and may also from time to time make and carry out any agreement which they may deem expedient for the supply of water to any railway company or manufactory for domestic purposes, whether such water be supplied within or without the municipality or unincorporated locality. (1909, c. 48, s. 111.)

115. The municipality or company may dispose of any real or personal property acquired for their purposes under this act when no longer required, and

until sold may let the same; any property so sold shall be free from any charge or lien on account of any debentures issued by the municipality or company, but the proceeds of the sale shall be added to and form part of the fund for the redemption and payment of any debentures constituting a charge thereon, or should no such debentures then exist, then the said proceeds shall form part of the general fund of the said municipality or company and may be applied accordingly. (1909, c. 48, s. 112.)

116. In case credit is given for any portion of the purchase money of such real property, the municipality or company may take security by way of mortgage to secure the same; and the municipality or company shall have all the rights, powers, and remedies expressed in or implied by any mortgage given as fully as if such mortgage had been given to a private person, and every such mortgage and the proceeds thereof shall stand as security for any debentures constituting a charge on the real property at the time of sale. (1909, c. 48, s. 113.)

117. All materials procured or partly procured under contract with the municipality or company, or upon which the municipality or company shall have made advances in accordance with such contract, shall be exempt from execution. (1909, c. 48, s. 114.)

PART VIII.—SPECIAL POWERS AND PRIVILEGES OF MUNICIPALITIES USING WATER FOR DOMESTIC PURPOSES.

118. No license for municipal purposes, as defined by section 50 of this act, granted to a municipality shall become void or be canceled by reason of non-user either in whole or in part, but in so far as the quantity of water licensed to be diverted by a municipality is not required for its present purposes a license may be granted to any company or person, upon a proper application under this act authorizing the use of the water, subject to and until it is required for municipal purposes. (1909, c. 48, s. 115; 1912, c. 49, s. 31.)

119. In those cases where a sufficient supply of unrecorded water is not available within reasonable limits of distance and expenditure, and save as to the water required by any individual for domestic purposes and water acquired by a company already supplying a municipality or unincorporated locality with water for municipal purposes, every municipality may, for municipal purposes only, apply to the minister for leave to expropriate any water record or water license and the works constructed thereunder, and acquire another license in respect thereof. (1909, c. 48, s. 116; 1913, c. 82, s. 2.)

120. An application to the minister under the last preceding section shall be by petition, sealed with the seal of the municipality and verified by the mayor and clerk, and shall set out—

(*a*) The information contained in the application for water of the existing licensee or holder of the water record.

(*b*) The information contained in the application for approval of the works by the existing licensee or holder of the water record.

(*c*) The same information as if the application was for a license for unrecorded water.

(*d*) The name and address of the company or person whose rights it is proposed to acquire.

(*e*) The name of the nearest stream available for the purposes of the municipality other than that the waters of which it is proposed to expropriate.

(*f*) Its distance from the municipality.

(*g*) An approximate estimate of the cost of bringing the water from the said stream to the municipality.

(*h*) The amount proposed to be paid to the existing licensee or holder of the water record for the extinguishment of his rights and the acquisition of his works, and for his loss generally.

(*i*) How and when the compensation is proposed to be paid.

(*j*) Such further information as the rules or the minister, on the application, may require. (1909, c. 48, s. 117; 1913, c. 82, s. 2.)

121. A copy of such petition indorsed with a notice of the time fixed for hearing shall be served on the existing licensee or holder of the water record and such other persons as may be affected by the application. (1909, c. 48, s. 118.) (Part new.)

122. The minister may, on such application, make such order as may be deemed just and expedient. (1909, c. 48, s. 119; 1913, c. 82, s. 2.)

123. Any municipality may, for municipal purposes, acquire by purchase, and for such consideration as may be agreed on, any water record or license to divert water and the works connected therewith, whether within or without the municipality. (1909, c. 48, s. 120.)

124. Any municipality may, for municipal purposes, on giving one year's notice in writing to the company supplying the municipality or any part thereof with water for the said purposes, expropriate such company's license or record and works, and also so much of the company's land as is used in connection with the works and essential to their proper management, and that whether the works and land so expropriated are within or without the municipality. (1909, c. 48, s. 121.)

125. The value of the works and land of the company shall be ascertained by arbitration under the "arbitration act," and shall, with the following additions thereto, be the price to be paid by the municipality:

(*a*) If the company's works have been in operation less than 5 years, a 30 per cent bonus upon such value.

(*b*) If in operation 5 and less than 10 years, a 25 per cent bonus.

(*c*) If in operation 10 and less than 15 years, a 20 per cent bonus.

(*d*) If in operation 15 and less than 20 years, a 15 per cent bonus.

(*e*) If in operation 20 years or more, a 10 per cent bonus. (1909, c. 48, s. 122.)

126. In estimating the value of the company's works and land, the arbitrators shall take as the basis of their valuation the amount which would be required to construct such works and their condition at the time of the arbitration. (1909, c. 48, s. 123.)

127. Whenever the net profits of a company supplying the inhabitants of a municipality with water shall exceed 20 per cent per annum on the paid-up capital of the company the rate charged by the company for water shall, on the petition of the municipality, be subject to regulation annually by the lieutenant governor in council, who shall so regulate the said rates from year to year as that the company shall not pay or be able to pay more than 20 per cent per annum on the paid-up capital of the company. (1909, c. 48, s. 124.)

128. Any company supplying the inhabitants of a municipality with water may be required by the municipality to make—

(*a*) Any reasonable extension of the company's works to other parts of the municipality.

(*b*) The works of the company reasonably capable of sustaining a pressure of water adequate for use in the event of fire.

(*c*) Such repairs and alterations as are reasonably necessary for supplying all the inhabitants with water and their reasonable protection from fire. (1909, c. 48, s. 125.)

129. The municipality shall give the company reasonable notice of the matters in the last preceding section mentioned and shall in such notice state—

(*a*) The parts of the municipality to be supplied with water.

(*b*) The description and duration of the further means of supply.

(*c*) Details of the improvements required to make the company's works conform to subsection (*b*) of the said section.

(*d*) The character, nature, and extent of any repairs and alterations.

(*e*) The time within which the matters and things specified in the said notice are to be begun and completed. (1909, c. 48, s. 126.)

130. Upon receipt of such notice as aforesaid, the company shall, within 14 days, inform the municipality whether or not it is intended to comply therewith. (1909, c. 48, s. 127.)

131. In the event of the company omitting to give the information required by the last preceding section, such omission shall be equivalent to a refusal and may be so treated. (1909, c. 48, s. 128.)

132. In the event of the company refusing or neglecting to comply with the terms of the notice aforesaid or negligently or inefficiently carrying out the requirements of the said notice the municipality may, by petition, apply to a judge of the supreme court to enforce the request contained in the said notice. (1909, c. 48, s. 129.)

133. Such petition shall conform as nearly as may be to the rules of the court in respect of matters initiated by petition. (1909, c. 48, s. 130.)

134. On the hearing of the petition the judge may determine the reasonableness of every matter and thing brought before him and shall make such order

thereon consistent with this act as shall in his opinion be just. (1909, c. 48, s. 131.)

135. Without limiting in any way the power of the judge to enforce any order he may make, any such order may be enforced by a writ of sequestration. (1909, c. 48, s. 132.)

136. Any order so made as aforesaid shall be subject to appeal as if it were a final order in an action. (1909, c. 48, s. 133.)

PART IX.—POWERS AND PRIVILEGES OF POWER COMPANIES.

137. Any municipality or company having obtained under Part VI of this act a certificate of the approval of an undertaking for the taking and using of water for power purposes, and having been granted under Part V of this act a license for the said purpose, may, upon the terms and conditions and for the purposes specified in the said certificate and the said license, and subject to the obligations, duties, and limitations hereinafter imposed, enter upon, take, and use Crown lands and other lands as provided for in Part XIII of this act, and may exercise the general powers and privileges in this part conferred. (1913, c. 82, s. 59.)

138. The company may, after the issuance of the said license, construct their works in, upon, through, over, and under any lands referred to in the map or plan submitted at the time when the application was made for the approval of the works; and for that purpose, and subject to the obligations hereinafter imposed, shall have the right of ingress, egress, and regress in, upon, through, over, and under the said lands, and to do and perform all such acts and things as may be necessary for the purpose of so constructing their works. (1909, c. 48, s. 135; 1912, c. 49, s. 33.)

139. In addition to the general powers conferred on all licenses, the company may, in conformity with the license obtained and the certificate granted by the lieutenant governor in council or the minister, use and apply water and water power for any of the purposes and in the manner and methods following, and shall generally have the following powers:

(*a*) To construct, operate, and maintain, alter, and improve houses, factories, warehouses, shops, wharves, buildings, erections, works, and conveniences of all kinds.

(*b*) To construct, operate, and maintain electric works, power-works, generating plant, and such other conveniences as may be necessary for generating electricity.

(*c*) Producing power in any manner and of any kind.

(*d*) Generating electricity for light, heat, power, the operation of motors, engines, and machinery of all kinds, propelling tramways, driving, hauling, lifting, crushing, smelting, drilling, milling, or for any other purpose for which it can be used, either alone or in connection with any other power.

(*e*) Transmitting electricity or any form of developed power, so that the same may be used by any municipality, company, corporation, or person.

(*f*) Compressing air and using the same for all purposes.

(*g*) Placing, sinking, laying, fitting, maintaining, and repairing electric lines, accumulators, storage batteries, electric cables, mains, wires, pipes, switches, connections, branches, electric motors, dynamos, engines, machines, or other apparatus or devices, cuts, drains, watercourses, pipes, poles, buildings, and other erections and works, and erecting and placing any electric line, cable, main, wire, or other electric apparatus above or below ground.

(*h*) Constructing, maintaining, and operating single or double-track or aerial or other tramways, with the necessary sidetracks and turnouts for the passage of cars, carriages, and all kinds of vehicles capable of being used upon or in connection with a tramway, upon, along, across, under, or above any lands, highways, roads, streets, bridges which are in the line of the tramway intended to be built by the power company and to erect, maintain, and repair poles and wires in the line of the tramway intended to be built.

(*i*) To take, transfer, and carry passengers, merchandise, and goods of all kinds on the tramway by any motive power now used or that may be afterwards discovered.

(*j*) Supplying consumers with electricity, compressed air, or any other form of developed power, whether now known or afterwards discovered.

(*k*) To erect, maintain, and repair poles, wires, and lines for the purpose of transmitting electricity or any other power, or telephone or telegraph messages, upon, along, across, or above any Crown lands, highways, roads, streets, bridges,

and for these or any other purposes to open, break up highways, roads and streets, sewers, drains, or tunnels within or under any such highways, roads, and streets.

(*l*) To erect poles, posts, pillars, lamps, globes, and any other apparatus in or upon highways, roads, streets, or bridges, or against any wall erected on the same or adjoining thereto.

(*m*) To dig trenches and drains and therein to lay cables, lines, and wires, and to put electric cables, lines, wires, switches, and connecting boards from any cables, lines, and wires in, under, along, or across all roads, highways, streets, and bridges, and from time to time to cut, alter, remove, replace, repair, and relay all or any such cables, lines, wires, switches, and connecting boards or other apparatus.

(*n*) To acquire by purchase or otherwise the right to use and enjoy electric or any other power already developed by others at any point or points.

(*o*) To construct, maintain, alter, repair, and renew devices for measuring light, heat, and power.

(*p*) To sell or let for use, light, heat, power, and any and all devices and apparatus used for measuring the same, or otherwise used in connection with the company's business and works.

(*q*) To fix the rates and charges for the use of light, heat, and power, and the carriage of goods and passengers.

(*r*) To require all persons supplied with electric light to place and use only such lamps and appliances as are approved by the company.

(*s*) If authorized by their memorandum of association, to sell, assign, and transfer to another company lawfully empowered in that behalf their license or licenses, undertaking and works. (1909, c. 48, s. 136; 1913, c. 82, s. 2.)

140. Any municipality and power company are hereby respectively authorized to make and to enter into any agreement or covenant relating to the construction, maintenance, and operation of the undertaking and works of the power company, in whole or in part, and of all matters incidental thereto, and for the opening, paving, macadamizing, repairing, and grading of the roads and streets, and the construction, opening of, and repairing of drains or sewers, and the laying of electric lines, cables, and water pipes in the said streets and highways, the location of any tramway and the particular streets along which the same shall be laid, the pattern of rails, the time and speed of running the cars, amount of fares to be paid by passengers, the time in which the works are to be commenced, the manner of proceeding with the same, and the time for completion, and generally for the safety and convenience of passengers, the conduct of the agents and servants of the power company, and the nonobstructing or impeding of the ordinary traffic. (1909, c. 48, s. 137.)

141. Subject to the obligations hereinafter imposed, the company may—

(*a*) Alter or divert the course of or raise or sink any highway, road, or way of any kind crossing a tramway in order to carry the same over, under, or by the side of the tramway.

(*b*) Fell and remove any trees which stand within 100 feet of or from either side of the company's pole line or the right of way of the tramway, or which are liable to fall across any pole line or any tramway tracks. (1909, c. 48, s. 138.)

150. In addition to any other powers conferred by the "companies act" or their memorandum of association, the directors of the company shall have power to make by-laws, rules, and regulations—

(*a*) Governing the affairs and servants of the company, and to be observed by all other persons using the tramways, rails, electric lines, electric appliances, or any property of the company.

(*b*) For the maintenance and management of the company's undertaking and works.

(*c*) For fixing tolls, rates, rents, and charges for—

(1) The carriage of all goods, wares, merchandise, ores, and every other thing that may be carried.

(2) Power, light, heat, and electricity.

(3) The use of electric lines, machinery, utensils, and appliances.

(4) The fares of passengers.

(*d*) For fixing the time and place of payment of all tolls, rates, rents, and charges, the collection and enforcement thereof, and in default of payment, in addition to any other remedy, the cutting off the supply of electricity or removing any utensils and appliances. (1900, c. 48, s. 147.)

151. All actions or suits for indemnity for any damage or injury sustained by reason of the tramway or the undertaking, operations, or works of the company shall be commenced within 12 months next after the time when such supposed damage is sustained, or, if there is continuance of damage, within 12 months next after the doing or committing of such damage ceases, and not afterwards; and the company and any other defendant may plead the general issue and give this act and the special matter in evidence at any trial to be had thereupon, and may prove that the same was done in pursuance of and by authority of this act. (1909, c. 48, s. 148.)

PART X.—MUNICIPALITIES AS POWER COMPANIES.

152. (1) Whenever a municipality, pursuant to any authority conferred by any act of the legislature, has passed a by-law or by-laws for any of the following purposes:

(*a*) For purchasing, constructing, operating, and maintaining works for supplying the inhabitants of the municipality and of localities adjacent thereto with water, electric light, or gas, and regulating the conditions and terms under which the same may be supplied and used.

(*b*) For acquiring by purchase or otherwise any tramways, street railway, ferry, gasworks, or electric-lighting plant already constructed or established, wholly or partly within the limits of the municipality, and to lease or maintain, operate, and extend the same as may seem expedient in the discretion of the council, by resolution passed from time to time in that behalf.

(*c*) For purchasing, constructing, operating, and maintaining tramways, street railways, and ferries, and for regulating the conditions and terms under which the same may be used.

Then such municipality may apply for a license to take and use water pursuant to this act.

(2) Upon the application to the minister for the approval of its undertaking such municipality shall, in addition to the information required by this act to be furnished under Part V of this act, give the following further information:

(*a*) A copy of the by-law or by-laws, duly certified by the clerk of the municipality, under the provisions of which the municipality intends to carry on the proposed undertaking.

(*b*) A description by metes and bounds of the locality within which the powers of the municipality in respect of its undertakings and work are to be exercised.

(*c*) A plan of such locality showing, so far as may be, the intended situation of the undertaking and works of the municipality.

(*d*) A description of the lands deemed necessary and proposed to be acquired for the proposed works.

(*e*) A description of the character and nature of the proposed works.

(*f*) An estimate of cost of the entire undertaking.

(*g*) A statement of proposed method of raising the necessary money to construct works and acquire land.

(3) If and when such municipality has obtained the approval of the minister of its undertaking and has obtained a license under this act, the municipality shall—

(*a*) Have all the rights, powers, and privileges of a power company.

(*b*) Be subject to all the obligations of a power company.

(*c*) Conform to this act and rules made by its authority in all matters and things in relation to the license and the construction of its works and the exercise of its powers. (1912, c. 49, s. 34; 1913, c. 82, s. 2.)

PART XA.—IRRIGATION COMPANIES.

152A. Any company which has obtained under Part VI of this act a certificate of the approval of an undertaking for the carriage or storage or carriage and storage of water for irrigation purposes, and has been granted under Part V of this act a license for the said carriage or storage or carriage and storage, may, upon the terms and conditions and for the purposes specified in the said certificate and the said license, and subject to the obligations, duties, and limitations hereinafter imposed, and upon complying with the provisions of this part of this act, enter upon, take, and use Crown lands or other lands as provided for in Part XIII of this act, and may store or carry water for irrigation

purposes for holders of licenses or conditional licenses who are authorized to take and use water under this act.

152B. (1) The irrigation company and any licensee or conditional licensee who is privileged to take and use water for irrigation purposes, and who desires to have the water stored or carried as aforesaid, shall enter into an agreement in respect thereof.

(2) Prior to or at the time of entering into the said agreement every such licensee or conditional licensee shall join the association referred to in the next succeeding section thereof.

(3) The lieutenant governor in council may make suitable rules and regulations governing the form of the said agreements. The said agreements shall provide that within a period of time not exceeding 40 years the licensee shall, through a series of annual payments or otherwise, purchase the works, the storage and carrying rights, right of way, and all other legal rights of the irrigation company in and to and incidental to the said undertaking.

152C. (1) The association shall be formed by letters patent or in such a manner as may be approved by the lieutenant governor in council, which association shall be a body corporate for the acquisition of the works and the undertaking under the last preceding section.

(2) The members of the said association shall be the licensees or conditional licensees who enter into the aforesaid agreement.

(3) The lieutenant governor in council may make rules and regulations as to the formation of the said association, its constitution, and for the governing thereof, and may approve by-laws made by the association for the regulating of its affairs.

152D. (1) The said works and undertaking may be acquired by the association formed as aforesaid as soon as the said payments therefor under the said agreements have been fully made, or when such major percentage of the said payments have been made as may be approved by the lieutenant governor in council: *Provided*, That until all the said payments shall be made in full, the irrigation company shall have a lien upon the land to which the licenses held by the said licensees are appurtenant for the balance of the payments remaining.

152E. (1) Upon an application for the approval of an undertaking for the purpose of carrying and storing water for irrigation purposes, the minister may, as provided in section 316 of this act, place a reserve upon the water set out in the said application.

(2) Notwithstanding anything to the contrary contained in section 318 of this act, such reserve shall, if the certificate for the approval of the said undertaking is granted and a license issued in respect thereto, remain effective and uncancelled until the time set by the said certificate for the completion of the works, and to the extent of the capacity menioned in the final license granted to the irrigation company under Part V.

152F. In addition to the general powers conferred on all licensees, the irrigation company shall, in conformity with the license obtained and the certificate granted by the lieutenant governor in council, have the following powers:

(*a*) To construct, operate, and maintain, alter, and improve reservoirs, dams, ditches, headgates, irrigation structures, works, and conveniences of all kinds.

(*b*) To construct, operate, repair, and maintain the said irrigation and storage works and structures and such other conveniences as may be necessary and incidental thereto.

(*c*) To store and carry water.

(*d*) To make and to enter into any agreement or covenant relating to the construction, maintenance, and operation of the undertaking and works of the irrigation company in whole or in part, and of all matters incidental thereto, including the supply of water for irrigation purposes.

(*e*) If authorized by their memorandum of association and subject to the approval of the lieutenant governor in council, to sell, assign, and transfer to another company lawfully empowered in that behalf their license or licenses, undertaking, and works; subject, however, to all the obligations and duties imposed by the said certificate and license and this act upon the selling company.

152G. The irrigation company may from time to time make and enforce by-laws, rules, and regulations, not inconsistent with this act or any rules made hereunder, for—

(*a*) The general maintenance, management, and conduct of the undertaking, business, and works.

(*b*) The conduct of all persons employed in connection with the undertaking and works.

(*c*) Subject to the approval of the minister, establishing the tolls to be paid by water users.

(*d*) The mode of collection of tolls.

(*e*) Providing for the time when and the place where the toll shall be payable.

(*f*) The purpose of preventing waste.

(*g*) The purpose of discovering and preventing dishonesty and fraud with respect to the delivery of water to water users.

(*h*) All other purposes within the scope of the undertaking: *Provided*, That an irrigation company shall not have the power to shut off the water to which any licensee is entitled under this act.

152H. All tolls established under the last preceding section and payable for the supply or use of water, and all costs and charges in connection therewith, shall be a charge on the land to which the water licenses are appurtenant, and may, in addition to all other remedies, be recovered by action in any court of competent jurisdiction. (1913, c. 82, s. 60.)

PART XI.—CLEARING STREAMS FOR DRIVING LOGS.

153. Any person or company desiring to obtain a license permitting them to clear and remove obstacles from any stream or streams for the purpose of making the same fit for rafting and driving logs may apply to the minister for such license, and shall describe the stream or streams proposed to be cleared, and briefly the nature and character of and the lands that will be affected by the proposed undertaking and works. (1909, c. 48, s. 151.)

154. The application shall be by petition or letter addressed to the minister and shall be in conformity with any rules on the subject, and be accompanied by a sketch, map, or plan showing, approximately, the nature, character, and extent of the proposed undertaking and works; and by a list of all parcels of land in the vicinity of the said stream from which the applicant is entitled to cut and remove timber; and shall also state the terms and conditions upon which it is proposed the license shall be granted. (1909, c. 48, s. 152; 1913, c. 82, s. 61.)

155. The minister, upon such application, may—

(*a*) Grant a permit to make surveys upon such terms as he may think fit.

(*b*) Refuse the application in his discretion.

(*c*) Limit the time within which the power conferred by the permit may be exercised.

(*d*) Make any order with respect to the application that, in his opinion, the public interest may require.

And shall require the applicant to furnish security for compensating any person for any loss, damage, or injury that may be sustained by reason of any entry upon the lands of private owners. (1909, c. 48, s. 153; 1912, c. 49, s. 35.)

156. When the minister has granted any permit under the last preceding section, the applicant, his engineer, surveyors, and servants may enter into and upon Crown lands, or any other lands by whomsoever or howsoever held, lying along or adjacent to the streams from which it is proposed to remove the obstructions, or which it is proposed to make more easily drivable, and to survey and take levels of same, and may make examinations and surveys for the proposed improvements, whether of dams, canals, locks, aprons, slides, booms, or deepenings of the channels, to be made. (1909, c. 48, s. 154; 1912, c. 49, s. 36.)

157. After having made the surveys as aforesaid, the applicant shall cause maps and plans to be made of the portion of the stream or streams from which the obstructions are to be removed, which said maps and plans shall conform to any rules on the subject. (1909, c. 48, s. 155; 1912, c. 49, s. 37.)

158. The applicant shall also cause to be made a map or plan of the improvements and works proposed to be made, and the said maps and plans shall conform to any rules on the subject; and, further, shall show in detail—

(*a*) A complete general plan of the proposed undertakings and works, showing in detail the nature and character of the improvements and works.

(*b*) The proposed site of any apron, dam, slide, gate, lock, boom, and works.

(*c*) Details of the construction of any of such works aforesaid.

(*d*) The names and addresses of the owners and occupiers of any lands proposed to be taken and used.

(*e*) The names and addresses of the owners and occupiers of any lands likely to be prejudiced or affected by the proposed undertaking and works.

(*f*) Full particulars of any authority under any former act, or any license under this act, in respect of the use of water from the stream or streams in question.

(*g*) An estimate from the best available source of the quantity of different kinds of timber expected to come down the stream or streams yearly after the works have been completed.

(*h*) The estimated cost of the undertaking and works.

(*i*) Generally a complete statement of all facts, matters, and things necessary to fully inform the minister as to the proposed undertakings and works, and all persons and lands affected thereby.

(*j*) A statement of the timber marks registered with the forestry branch of the department of lands in respect of the lands from which it is proposed to remove the timber to be rafted or driven. (1909, c. 48, s. 156; 1912, c. 49, s. 37; 1913. c. 87, ss. 2, 62.)

159. The maps, plans, and particulars mentioned in the last two preceding sections shall be made in duplicate, and one copy shall be delivered to the minister, who may require any further particulars or details that, in his opinion, the public interest demands, and the other copy shall be filed in the office of the water recorder of the water district in which the proposed works are situate. (1909, ch. 48, s. 157; 1912, ch. 49, s. 2.)

160. Upon the minister being satisfied that the maps, plans, and particulars contain the necessary or required information, he shall submit the same to the lieutenant governor in council for consideration. (1909, ch. 48, s. 158.)

161. The application for a final license shall be by petition to the minister, setting out the matters aforesaid, and shall conform to any rules on the subject. (1909, c. 48, s. 159; 1913, c. 82, s. 2.)

162. On presentation of the petition, the minister may appoint some competent person to examine and report on the proposed undertaking and works, and require the petitioner to give security for all costs and expenses in connection therewith, and fix a convenient time for hearing the said petition. (1909, c. 48, s. 160; 1913, c. 82, s. 2.)

163. The applicant shall then, for 60 days between the presentation and the hearing of the petition, publish in the Gazette and in a local newspaper a notice of intention to apply to the minister for a final license. (1909, c. 48, s. 161; 1912. c. 49, ss. 38, 39; 1913, c. 82, s. 2.)

164. The applicant shall also, at least 30 days before applying to the minister, address a registered letter containing a like notice to every person any part of whose lands are likely to be affected by the proposed undertaking and works and proposed to be taken and used or to be entered for any purpose whatsoever. (1909, c. 48, s. 162; 1912, c. 49, s. 39; 1913, c. 82, s. 2.)

165. Upon the hearing of the petition, the minister may consider the probable effect not only upon the rights already acquired with respect to the use of water from the stream or streams for any purpose, but also the probable effect the proposed undertaking and works may have upon the possible use of the stream or streams for any of the purposes mentioned in Part IV of this act, and shall have due regard to the priority in that part established, and may make any order or give any direction at the cost of the applicant for the purpose of obtaining information, before finally acting upon the petition; and may further—

(*a*) Direct notice of the petition to be served on any other person whom it may be deemed desirable to serve.

(*b*) Adjourn the same from time to time.

(*c*) Refuse the petition.

(*d*) Alter or modify the proposed undertaking and works.

(*e*) Approve the undertaking and works.

(*f*) Grant a final license upon such terms and conditions as may be deemed expedient.

(*g*) Generally make any order in the premises that may be deemed expedient. (1909, c. 48, s. 163; 1913, c. 82, s. 2.)

166. Every final license granted by the minister shall set out—

(*a*) The terms and conditions upon which it has been granted.

(*b*) The period of time, not exceeding 20 years, during which the powers conferred by this act may be exercised by the licensee.

(*c*) The time when the works are to be begun.

(*d*) The time within which the works are to be completed.

If any licensee shall not have completed the proposed works in the time named in his license his license shall lapse, unless within that time he can show good cause for such noncompletion, in which case the minister may extend the time for completion. Any license granted under this section may be renewed at the end of the said 20 years if the minister, on the application for such renewal, is of the opinion that such renewal is in the public interest. The said renewal shall be subject to the payment of such rental, fee, tax, or royalty and to such terms, conditions, regulations, and restrictions as are fixed and imposed by any statute or order in council in force at the time renewal is made or at any time thereafter. (1909, c. 48, s. 164; 1913, c. 82, ss. 2, 63.)

167. After the minister has granted any final license the licensee shall forthwith, and before entry on the lands of any private owner, give such security as the minister may require for the payment of all such sums as may be awarded by way of compensation to owners of private property for any damage or injury done in the exercise of any of the powers conferred by this act, and otherwise to perform and abide by all the provisions of this act and the rules in respect of such undertaking and works. (1909, c. 48, s. 165; 1913, c. 82, s. 2.)

168. When making the entry upon private property for any purpose, the licensee shall do as little damage as possible, and shall make full compensation to all owners of private property for any loss, damage, or injury done when exercising the powers aforesaid. (1909, c. 48, s. 166.)

169. If the amount of the compensation to be made for any damage or injury can not be agreed upon, then it shall be settled by arbitration, pursuant to the "arbitration act." (1909, c. 48, s. 167.)

170. The minister may, upon the presentation of a petition praying that any or all of the times aforesaid may be extended, direct a copy thereof to be served upon any person interested or likely to be prejudiced by any such extension of time, and, after hearing the petition and any one opposing, extend any of the times aforesaid, upon such terms and conditions as may be deemed expedient. (1909, c. 48, s. 168; 1913, c. 82, s. 2.)

171. When the licensee has received a final license as aforesaid he shall, upon the terms and conditions and for the time therein specified, have power—

(*a*) To remove any obstruction from the stream referred to in the license.

(*b*) To construct any apron, dam, slide, gate, lock, boom, or other works therein necessary to facilitate the floating and transmitting of logs, rafts, and crafts; and also,

(*c*) In manner hereinafter prescribed, to take and use any lands which may be necessary for the construction of the said works. These powers shall be subject to the prior rights of record holders under former acts and licenses under other parts of this act to the uninterrupted flow of so much of the water of such stream as is required for actual beneficial use under such records or licenses. (1909, c. 48, s. 169; 1912, c. 49, s. 40.)

172. If the works of the licensee shall include penning back the water of any stream or streams, then such penning back shall, as to any matter not regulated by this part of this act, be subject to the provisions of Part XII of this act, relating to storing water. (1909, c. 48, s. 170.)

173. If as a result of the construction of any works by a licensee under this part of this act any water power is created, the licensee shall not, by reason of such construction only, have any right, title, or claim to use the power so created. (1909, c. 48, s. 171.)

174. No water penned back by any licensee under this part of this act shall be released without ample notice being given to all persons whose property is liable to injury from releasing such water, and the licensee shall not, by reason of anything in this act contained, be relieved from liability for any loss, damage, or injury sustained by any one arising from the release of such water, or from or incidental to the exercise by the licensee of any powers, rights, or privileges acquired. (1909, c. 48, s. 172.)

175. After any works constructed by a licensee under this part of this act have been completed and the tolls established, the licensee shall maintain and repair the said work. (1909, c. 48, s. 180.)

176. Any person aggrieved by any defect or insufficiency in construction of or neglect to maintain or repair the works may serve the licensee with notice of such defect, neglect, or insufficiency; and if within a reasonable time after the service of such notice the defect, insufficiency, or neglect has not been reme-

died, the licensee shall be liable to an action to recover the damage or loss any one may sustain by such defect, insufficiency, or neglect. (1909, c. 48, s. 181.)

177. No licensee shall, however, be liable for any damage or loss if the works have been constructed in accordance with the plans and specifications submitted for approval before the issuance of the final license, nor for any damage arising from the accidental destruction or injury of the works. (1909, c. 48, s. 182.)

178. Any two or more licensees may, if they are otherwise properly clothed with such authority and their works are contiguous to each other, unite and form one consolidated partnership or company, as the case may be, and the united licensees may then exercise and enjoy all the rights and shall be liable to all the liabilities which they had separately had and enjoyed or were liable or subject to before the amalgamation. (1909, c. 48, s. 183.)

179. Subject to the approval of the minister, the license granted under this part of this act may be assigned upon the assignee furnishing security satisfactory to the minister for the payment by the assignee of all such sums as may be awarded to owners of property for damage or injury while exercising any of the powers conferred on the licensee. (1909, c. 48, s. 190; 1913, c. 82, s. 52.)

180. Before the issuance of the license the licensee shall pay to the minister the sum of $100, and annually thereafter during the continuance of the license shall pay to the minister on the 1st day of June the sum of $25. (1909, c. 48, s. 191; 1912, c. 49, s. 41.)

181. Every person to whom any power or authority has been granted pursuant to chapter 168 of the Revised Statutes, 1897, and has not surrendered such authority, nor received a license under this act in substitution therefor, shall file a statement of his claim or right to such power or authority before the board of investigation created by Part III of this act, and shall in respect thereof be governed by this act, and shall pay to the minister annually on the 1st day of June the sum of $25. (1913, c. 82, s. 64.)

182. The powers conferred on the licensee shall not be exercised with respect to any dam, weir, or bridge erected in and over any stream, or to anything done bona fide in or for erecting the same, or to any tree cut down or felled across any stream for the purpose of being used as a bridge from one side to the other, unless the flow of water or the passing of rafts is seriously impeded. (1909, c. 48, s. 194.)

183. In the event of any application for a license under this part of this act covering or including any portion of a stream already included in some former authority or license, and such former authority or license has not been acted upon or has not been continued to be acted upon, the minister may cause a notice to be given to the holder of such former authority or license requiring cause to be shown why, at a time and place fixed by such notice, such former authority or license should not be revoked; and the minister may, unless satisfactory cause be shown why such former authority or license has not been acted upon, or has not been continued to be acted upon, revoke and cancel the same, or make any other order in the premises that may be deemed just. (1909, c. 48, s. 195; 1910, c. 52, s. 6; 1913, c. 82, s. 2.)

184. All persons driving saw logs or other timber, rafts, or crafts down any such stream or streams shall have the right to go along the bank of such river, creek, stream, or streams, and, subject to any rules made under this act, to assist the passage of the timber over the same by all means usual among lumbermen, doing no unnecessary damage to the banks of the stream or streams. (1909, c. 48, s. 189.)

185. If any licensee shall construct in or upon such stream or streams any apron, dam, slide, gate, lock, boom, or other works necessary to facilitate the floating or transmission of saw logs or other timber, rafts, or crafts down such stream or streams which was not navigable or floatable before the improvements and works were made, or shall blast rocks, or remove shoals or other impediments, or otherwise improve the floatability of the stream or streams, such licensee shall not have the exclusive right to the use of the stream or streams, or to the constructions, improvements, and works, but all persons shall have the right to float and transmit saw logs and other timber, rafts, and crafts down such works, doing no unnecessary damage thereto or to the banks of the streams, and through and over the constructions, improvements, and the said stream or streams, and subject to the payment to the licensee of reasonable tolls. (1909, c. 48, s. 173.)

186. The licensee may demand and receive the lawful toll upon all timber which has come through or over any of the works of the licensee, and the licensee, by his servants, shall have free access to all such timber for the purpose of measuring or counting the same. (1909, c. 48, s. 174.)

187. The board of investigation shall, upon the application of the licensee or of any persons who may desire to use the stream or streams, improvements, and works, fix the amounts which the licensee shall be at liberty to charge for tolls, boomage, rafting, driving of logs, timber, lumber, rafts, and for taking care of the same until delivered, and may from time to time vary such amounts; and the board, in fixing the tolls, shall have regard to and take into consideration the original cost, as well as such other matters as under all the circumstances may seem just and equitable. (1909, c. 48, s. 175; 1913, c. 82, s. 65.)

188. If the just tolls are not paid on demand, the licensee may sue for the same in any court of competent jurisdiction, and recover from the owner of the timber the amount of the tolls and the costs of action. (1909, c. 48, s. 176.)

189. The licensee shall give 10 clear days' notice of the intended application to the board to fix a tariff or schedule of rates as aforesaid to all persons who, in his opinion, will be affected by any order made or tariff or schedule fixed by the board, and shall serve a copy of such tariff or schedule of rates upon all the persons who were served with notice of the intended application. (1909, c. 48, s. 177; 1913, c. 82, s. 66.)

190. If timber has not come through or over the whole of the works of the licensee, but only through or over a part thereof, the owner of the timber shall only be liable to pay tolls for such sections of the whole works as he has made use of, if in the schedule of tolls the works are divided into sections, and if not, then to pay such a portion of the whole toll as the distance the timber has come through the works bears to the whole distance over which the works extend. (1909, c. 48, s. 178.)

191. The tariff or schedule of rates aforesaid shall be inoperative against any person not served with notice of the intended application to the board, and any such person may at any time, upon three clear days' notice to the licensee, apply to the board to rehear the application; and the board shall thereupon rehear the application, and either approve or change the said tariff or schedule, as they may deem just. (1909, c. 48, s. 184; 1913, c. 82, ss. 66, 67.)

192. If the tariff or schedule be changed, the costs of the application shall be borne and paid by the licensee, or by the applicant, as may be ordered by the board, who shall at the same time fix the costs at a lump sum. (1909, c. 48, s. 185; 1913, c. 82, s. 68.)

193. The board or any member thereof shall have the same and like powers as to compelling the attendance and examination of witnesses, the production of documents, and otherwise, as are possessed by a judge of the county court or by a county court in any cause, action, matter, or other proceeding carried on or pending in a county court. The provisions of Part III of this act shall be extended to this part as far as applicable. (1909, c. 48, s. 186; 1913, c. 82, s. 69.)

194. An appeal shall lie to the court of appeal from every order or decision of the board under this part, and the statutes and rules governing appeals from the judgment of a judge of the supreme court to the court of appeal shall apply to and govern all appeals from the board to the court of appeal. (1913, c. 82, s. 70.)

195. Every licensee entitled to tolls under this act shall have a lien upon the saw logs or other timber passing through or over such constructions, improvements, and works for the amount of the toll, such lien to rank next after the lien (if any) which the Crown has for dues in respect to such logs or timber, and the lien which any person may have under the "woodman's lien for wages act"; and if the tolls are not paid, any justice of the peace having jurisdiction within or adjoining the locality in which the constructions, improvements, and works are shall, upon oath of the owner of the constructions, improvements, and works, or upon the oath of his agent, that the just tolls have not been paid within 30 days of the passage of the logs or timber through or over any of such constructions, improvements, or works, issue a warrant for the seizure of such logs or timber, or so much thereof as will be sufficient to satisfy the tolls, which warrant shall be directed to any constable or any person sworn in as a special constable for that purpose, at the discretion of the magistrate, and shall authorize the person to whom it is directed, if the tolls are not paid within 14 days from the date thereof, to sell, subject to the lien of the Crown (if any) for dues and the lien which any person may have under the "woodman's lien for wages act," the said logs or timber, and out of the proceeds to pay such

tolls, together with the cost of the warrant and sale, rendering the surplus on demand to the owner. (1909, c. 48, s. 188.)

196. Every licensee entitled to tolls under this part of this act may make rules and regulations for the purpose of regulating the safe and orderly transmission of saw logs, timber, rafts, and crafts over or through such constructions, improvements, and works; but no such rules or regulations shall have any force or effect until approved of by the minister, and the minister may revoke and cancel such rules and regulations so made and approved, and from time to time approve of new rules and regulations, which the person so entitled to tolls as aforesaid shall have the power to make. (1909, c. 48, s. 193; 1913, c. 82, s. 2.)

197. If any person resists or impedes any of the servants of the licensee in the transmission of any timber through any such works, or in carrying out any regulations of the licensee for the greater safety and regularity of such transmission, or resists any such servants who may require access to any logs, rafts, or other timber to ascertain the just tolls thereon, or in any way molests the licensee or his servants in the exercise of any rights secured to them by this act, such person shall, upon conviction thereof in a summary way before a justice of the peace having jurisdiction in the locality in or adjoining which the offense has been committed, be sentenced to pay a fine of not less than $1 nor more than $10, together with all costs. (1909, c. 48, s. 179.)

PART XII.—STORING WATER.

198. Any licensee whose license includes the right to store water, and whose works have been approved pursuant to this act, may proceed with the construction of the works necessary for such storage purposes and, pursuant to the rules in that behalf, the acquisition of the land required. (1909, c. 48, s. 196; 1912, c. 49, s. 43.)

199. The right to store water shall be subject to prior rights to its uninterrupted flow for so much as is required for actual, constant, beneficial use, and to its immediate use for domestic purposes; and, subject as aforesaid, and to any obligations hereinafter imposed and any rules on the subject, any licensee having acquired the right to store water may take from or pen back the water in any natural stream and store water in reservoirs and use the same in accordance with the license granted under this act and the certificate issued by the lieutenant governor in council or the minister. (1909, c. 48, s. 197; 1912, c. 49, s. 2; 1913, c. 82, ss. 2, 71.)

200. Any person affected or prejudiced by an unlawful storage or penning back of water may apply to the engineer of the water district to restrain or regulate such storage or penning back. (1912, c. 49, s. 44; 1913, c. 82, s. 2.)

201. Upon any such application the engineer of the water district shall promptly issue a notice directed to the licensee of the right to store water whose acts are objected to, requiring him, within not less than two clear days, to show cause why the exercise of the said right or privilege should not be restrained, either wholly or partially, or regulated as may be deemed just. The said notice shall state the time and place of the proposed inquiry. The engineer of the water district may direct notice to be served upon any other person in his opinion likely to be affected by the proposed penning back. (1909, c. 48, s. 199; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

202. The time to be fixed by the engineer of the water district for making the inquiry shall be as speedily after the application as, having regard to the circumstances of each case, is reasonably convenient. (1909, c. 48, s. 200; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

203. Any person objecting to the penning back shall serve notice of such objection on all parties mentioned by him to the engineer of the water district as probably prejudiced by the proposed penning back of the water and on all other persons who may be directed by the engineer of the water district to be so served. (1909, c. 48, s. 201; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

204. Every exertion shall be used to effect personal service on all persons to be served. Where, however, this can not be effected, then it shall be good service to leave the notice at the dwelling place of each person to be served. (1909, c. 48, s. 202.)

205. The engineer of the water district, upon application as aforesaid to restrain or regulate the penning back of water, shall—

(*a*) Endeavor to prevent the water being wasted.

(*b*) Take into consideration the quantity of water actually required by any person objecting to the penning back.

and for the purpose aforesaid and all other purposes connected with the matter may exercise any of the following powers:

(*c*) Make, either before or at the hearing, a personal examination of the stream proposed to be dammed and of the works of any or all parties interested, and may act upon such examination and the information derived therefrom in order to arrive at a just conclusion.

(*d*) Require any person to attend and give evidence before him.

(*e*) Administer an oath to any person intending or compelled to give evidence.

(*f*) Adjourn the hearing from time to time as may be necessary.

(*g*) Under special circumstances extend the time fixed for hearing any application or the performance of any matter or thing directed to be done.

(*h*) Wholly or partially restrain the proposed penning back of the water or determine the quantity of water (if any) permitted to be penned back and the days and hours when such penning back will be permitted.

(*i*) Make any order pending the hearing for the use of the water or its penning back or otherwise in connection with the matter as to him may seem just. (1909, c. 48, s. 203; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

206. The minister may, at his discretion, under his hand, appoint some other person to discharge the duties in this part of this act hereinbefore imposed upon the engineer of the water district, and thereupon the person so appointed shall be clothed with and may exercise all the powers and authorities conferred upon the engineer of the water district. (1909, c. 48, s. 204; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

207. Any licensee having obtained permission to store water may turn, divert, and deliver water so stored by him into the natural channel of any stream, and, subject to a deduction for seepage and evaporation, may at any point or points take from the same, or any other stream into which the stored water flows, the quantity of water so turned into such natural channel as aforesaid. (1909, c. 48, s. 205.)

208. A licensee intending to turn water into a natural channel for the purpose aforesaid shall, before doing so, give all other licensees entitled to take water from any stream into which the stored water may flow at least 24 hours' notice of his intention. Such notice shall state the quantity of stored water intended to be turned into the natural channel, the day and hour when it will be turned in, and the point or points where it is intended to take it out again. (1909, c. 48, s. 206.)

209. Such measuring boxes or devices as the rules may prescribe shall be placed at the point where the stored water is turned into the natural channel, and also at the point or points where it is taken out again. (1909, c. 48, s. 207.)

210. The engineer of the water district shall, when required so to do, make an examination of the stream and works for the purpose of determining the deduction to be made for seepage and evaporation, and after such examination shall determine the deduction to be made. (1909, c. 48, s. 208; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

211. When making such examination as aforesaid, and determining the deduction for seepage and evaporation to be made from the stored water turned into the natural channel, the engineer of the water district shall, among other things, take into consideration the loss by seepage and evaporation of the water naturally at the time of such examination flowing in the stream, and may place such measuring devices as the rules may prescribe in any part of the stream, to enable him to determine fairly the proper deduction for seepage and evaporation to be made from the stored water. (1909, c. 48, s. 209; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

212. With the consent of all parties, the engineer of the water district may fix a time within which any particular deduction for seepage and evaporation shall continue. (1909, c. 48, s. 210; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

213. When any two or more licensees have acquired the right to store water, and they can not before any works are begun agree as to the share of the cost of construction of the works necessary to store water for all such licensees, then the matters in dispute shall, subject to and in accordance with any rules on the subject, be determined by arbitration, pursuant to the "arbitration act." (1909, c. 48, s. 211.)

214. Any licensee may, before entering upon such arbitration, abandon his right to store water. (1909, c. 48, s. 212.)

215. If any licensee abandons his right to store water after an award is made, he shall be liable to and shall pay all the costs of and incidental to the

arbitration, and any one or more of the licensees interested in the award may bring an action against such licensee abandoning his right to store water to recover such costs, in any court of competent jurisdiction, to the amount sued for, and any judgment in such an action shall carry the costs of the action. (1909, c. 48, s. 214.)

216. When works for storing water have been begun and partly or wholly completed by one or more licensees and subsequent licensees desire to store more water and to increase the capacity of the reservoir, the entire cost of such increase in the storage capacity of the reservoir shall be borne by the licensee or licensees desiring such increased storage facilities. Any dispute arising under this section shall be settled by arbitration as aforesaid. (1909, c. 48, s. 215.)

217. When any two or more licensees using the same reservoir for storing water can not agree upon the quantity to be withdrawn by each, the quantity to which each is entitled shall be settled by the engineer of the water district, who for that purpose shall, having due regard to priority, have all the powers hereinbefore in this part of this act conferred upon him. (1909, c. 48, s. 216; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

218. Whenever before the 12th day of March, 1909, a record has been issued for the use of water limited to particular hereditaments which have afterwards been subdivided and portions thereof alienated, and after such alienation a record has been obtained authorizing the storing of the water, the use whereof is granted by the original record, the holder of the record shall not as to such stored water be in anywise limited in its distribution. (1909, c. 48, s. 294.)

219. No appeal shall lie from any order made by an engineer of the water district under this part of this act. (1909, c. 48, s. 217; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

219A. The provisions of sections 200 to 206 (both inclusive) of this act shall apply mutatis mutandis to the lowering of the level of water under a license for that purpose issued under this act. (1912, c. 49, s. 45.)

PART XIII—THE TAKING AND USING OF LANDS.

220. The word "works" in this part of this act shall include not only the meaning given to it in the interpretation clause of this act, but also all the things which may be done or constructed by power companies. (1909, c. 48, s. 218.)

221. No licensee shall take possession of, use, or occupy any Crown lands, or fell timber thereon, except in conformity with this act and rules, unless the works have been approved under this act, and the conditions of such entry, use, occupation, and felling of timber have been settled and defined and have been approved by the lieutenant governor in council or the minister. (1909, c. 48, s. 219; 1912, c. 49, s. 46; 1913, c. 82, s. 2.)

222. Any licensee may, purusant to this act and rules or with the approval of the lieutenant governor in council or the minister as aforesaid, enter upon take, use, and occupy so much of the lands of the Crown as may be necessary for the licensee's works. (1909, c. 48, s. 220; 1913, c. 82, s. 2.)

223. No licensee shall alienate lands so taken, used, or occupied, save in connection with the undertaking and works. (1909, c. 48, s. 221.)

224. No entry shall be made on the lands of private owners if the works can be reasonably constructed upon Crown lands without such entry. (1909, c. 48, s. 222.)

225. Any licensee may enter upon, take, use, and occupy so much of the lands of others without their consent as may be necessary for the construction, maintenance, and operation of the licensee's works in, upon, over, through, or under such lands, and no more. (1909, c. 48, s. 223.)

226. Before entering upon any lands, other than Crown lands, intended to be taken and used, or for the purpose of felling timber under the powers herein conferred, the licensee shall—

(*a*) File in the land registry office of the district in which such lands are situate a map or plan of the lands intended to be entered upon, taken, or used.

(*b*) Serve the owner, or if the lands are not occupied by the owner, then both the owner and any registered incumbrancer and the occupier of such lands, with a 30 days' notice of such intended entry.

(*c*) With such notice serve a copy of so much of the map or plan as affects the lands of such owner and such incumbrancer and occupier, which shall distinctly show—

(1) The character and nature of the proposed works.

(2) How and in what manner the lands will be affected by such proposed works.

(3) The area of land intended to be taken.

(4) The amount of the compensation proposed to be given.

(5) If the owner be not the occupier, then the amount of the compensation to be paid to the owner and the occupier severally in respect of their respective interests.

(*d*) Furnish adequate security for the compensation of all persons whose lands are intended to be taken and used. (1909, c. 48, s. 224.)

227. The date of the deposit of the plan referred to in subsection (*a*) of the last preceding section shall, as to the land mentioned in the plan required for construction purposes only, be the date with reference to which the compensation shall be ascertained. (1909, c. 48, s. 225.)

228. Before the expiration of the said 30 days' notice the owner shall determine whether or not he will accept the compensation mentioned in the said notice and notify the licensee accordingly. (1909, c. 48, s. 226.)

229. If the land be not occupied by the owner, then both owner and any such incumbrancer and occupier shall, in respect of their respective interests in the land, within the said 30 days determine whether or not they will accept the compensation mentioned in the notice and notify the licensee accordingly. (1909, c. 48, s. 227.)

230. The neglect or omission of the owner and any such incumbrancer and occupier, or either of them, to give the notice to the licensee as in the last two preceding sections mentioned shall be deemed to be equal to a refusal to accept the proposed compensation and so treated accordingly. (1909, c. 48, s. 228.)

231. In the event of one (either owner or such incumbrancer or occupier) accepting the proposed compensation in respect of his interest in the land and the other refusing, then the same proceedings may be had and taken in respect of the interest of the party refusing to accept the proposed compensation as may be had and taken if the proposed compensation had been refused by either the owner, or owner, such incumbrancer, and occupier. (1909, c. 48, s. 229.)

232. If the owner of the land proposed to be taken be absent from the Province, or after diligent inquiry and search can not be found, a petition may be presented to a judge of the supreme court praying for lease to give substituted notice of any and all matters in which notice is herein required to be given. (1909, c. 48, s. 230.)

233. Such petition shall show what inquiry and searches have been made in order to serve the owner personally with the said notice or notices, and shall be verified by affidavit. (1909, c. 48, s. 231.)

234. The judge, on being satisfied by the affidavit verifying the petition, or such further and other evidence as may be forthcoming, that due diligence has been shown in making the inquiry and search, may direct such substitutional service at the cost and charges of the licensee as in his opinion shall be just. (1909, c. 48, s. 232.)

235. If the owner, or, where necessary, the owner, such incumbrancer, and occupier, shall accept the proposed compensation, the licensee, after payment or tender of the amount, may enter upon, take, and use the lands mentioned in the said map or plan accompanying the said notice. (1909, c. 48, s. 233.) (Part new.)

236. In the event of the owner, such incumbrancer, and the occupier, or any or either of them, not agreeing on the compensation, then the amount shall be settled by arbitration under and pursuant to the "arbitration act." (1909, c. 48, s. 234.) (Part new.)

237. The arbitrators shall, in making their award, take into consideration the increased value (if any) that will be given to the lands through, over, or under which the proposed works of the licensee will be constructed, by reason of the construction of such works, and shall set off such increased value against the inconvenience, loss, or damage that will be suffered by reason of the licensee taking and using the said lands. (1909, c. 48, s. 235.)

238. The arbitrators shall, in making their award, further take into consideration not only the value of the lands to be taken and used, but also any loss, injury, damage, or inconvenience that will be caused generally by the construction of the licensee's works to all the lands of the owner or such incumbrancer or occupier through, over, or under which the works will pass. (1909, c. 48, s. 236.)

239. If the arbitrators shall award to any party, either owner or such incumbrancer or the occupier, or both, a larger sum than that offered by the licensee, then the cost of the arbitration shall be borne and paid by the licensee; but if the award shall be equal to or less than the amount offered by the licensee, then the costs of the arbitration shall be borne and paid by the party refusing to accept the offered compensatou. (1909, c. 48, s. 237.)

240. In the case where the land is not occupied by the owner, the arbitrators shall apportion the loss, damage, or injury between the owner or such incumbrancer and the occupier respectively. (1909, c. 48, s. 238.)

241. Upon payment or tender by the licensee of the amount of the award to the owner or such incumbrancer or occupier of the land, or both, as the case may be, the licensee may take and use so much of the land referred to in the notice as may be necessary. (1909, c. 48, s. 239.)

242. The licensee may pay the compensation into the supreme court, with the interest thereon, at the rate of 5 per centum per annum, for six months—

(*a*) If the licensee has reason to fear any claim, mortgage, or incumbrance; or

(*b*) If any person to whom the compensation or annual rent or any part thereof is payable refuse to execute a proper conveyance or grant; or

(*c*) If the person entitled to claim the compensation or annual rent can not be found, or is unknown to the licensee.

If for any other reason the licensee deems it advisable, such licensee may deliver to the registrar of such court an authentic copy of the conveyance, or of the award or agreement if there is no conveyance, and thereupon such conveyance or award or agreement shall be deemed to be the title of the licensee to the land therein mentioned. (1909, c. 48, s. 240.)

243. A notice of such payment and delivery, in such form and for such time as the court appoints, shall be inserted in a newspaper published in the district in which the lands are situated, or if there is no newspaper published in the district, then in the Gazette, and also in a newspaper circulating in the said district. (1909, c. 48, s. 241.)

244. Such notice shall state that the conveyance, agreement, or award constituting the title of the licensee is obtained under the authority of this act, and shall call upon all persons claiming an interest in or entitled to the lands or any part thereof to file their claims to the compensation or any part thereof. (1909, c. 48, s. 242.)

245. All tenants in tail or for life, guardians, executors, administrators, trustees, and all persons whomsoever, as well for and behalf of thsoe whom they represent, whether infants, issue unborn, lunatics, idiots, femes covert, or other persons, seized or possessed of or interested in any lands, may contract and sell and convey to the licensee all or any part thereof. (1909, c. 48, s. 243.)

246. When such persons have no right in law to sell or convey the rights of property in the said land, they may obtain from a judge of the supreme court, after due notice to the persons interested, the right to sell the said land. (1909, c. 48, s. 244.)

247. The said judge shall give such orders as are necessary to secure the investment of the purchase money, in such manner as he deems necessary to secure the interests of the owner of the said land, and for vesting in the licensee the land in respect whereof the compensation has been paid into court. (1909, c. 48, s. 245.) (Part new.)

248. Any contract, agreement, sale, conveyance, or assurance made under the authority of the last three preceding sections shall be valid and effectual in law, to all intents and purposes whatsoever; and any conveyance so authorized shall vest in the licensee receiving the same the fee simple in the lands therein described, freed, and discharged from all trusts, restrictions, and limitations whatsoever. (1909, c. 48, s. 246.)

249. The person so conveying is hereby relieved from liability for what he does by virtue of or in pursuance of this act. (1909, c. 48, s. 247.)

250. The licensee shall not be responsible for the disposition of any purchase money for lands taken by the licensee for its purposes, if paid to the owner of the land or into court for his benefit. (1909, c. 48, s. 248.)

PART XIV—THE OBLIGATIONS, DUTIES, AND LIMITATIONS IMPOSED ON LICENSEES.

General.

251. Without lawful authority, no licensee shall obstruct any navigable stream. (1909, c. 48, s. 249.)

252. Every license issued under this act shall be for the beneficial use of the quantity of water permitted to be taken and used, and notwithstanding the quantity of water granted by any license, no license shall, to the prejudice of others, divert more water from any stream than can for the time being be by him beneficially used. (1909, c. 48, s. 250; 1913, c. 82, s. 72.)

253. When water is not being beneficially used by any licensee, the comptroller or water rights, upon notice to such licensee, and upon being satisfied that the quantity of water mentioned in the license of such licensee is not being beneficially used, or is in excess of the requirements of such licensee, may grant a license to any other person to take and use so much thereof as in the opinion of the comptroller may be just to all parties. The decision of the comptroller of water rights shall be subject to appeal to the minister in manner hereinafter prescribed. (1913, c. 82, s. 73.)

254. The license granted by the authority of the last preceding section shall not have the same precedence as the license in default, and shall be subject, if the nonuser is or has been of temporary character, or if the original license is one held by a municipality for municipal purposes, to the resumption by the original licensee of the rights granted by the original license when the water can be beneficially used. (1909, c. 48, s. 252; 1912, c. 49, s. 48; 1913, c. 82, s. 74.)

255. If the powers granted by any license shall not be exercised (in good faith and not colorably) for three successive years, they shall, ipso facto, become null and void, and the comptroller of water rights shall make an entry in the register of licenses to that effect: *Provided*, That, if the board of investigation has not held an adjudication respecting the waters of any particular stream, any holder of a right on the said stream may apply to the board for the renewal of any license or record held by him which has not yet become null and void as aforesaid; and upon the applicant giving to all persons likely to be affected by such renewal such notice as the board may direct, and upon such hearing as the board may deem expedient, the board may renew the license, giving it the original or any priority it may deem just, and may reduce the quantity of water granted or may grant the quantity originally permitted. (1909, c. 48, s. 253; 1912, c. 49, s. 2; 1913, c. 82, s. 75.)

256. Upon any such application as last aforesaid, the comptroller of water rights shall take into consideration any intervening rights acquired by others, the money expended, and the facts proved and reasons stated for not exercising the rights acquired for the said period of time. (1909, c. 48, s. 254; 1912, c. 49, s. 2.)

257. Every license shall be subject to cancellation for waste or for nonuse of the privileges granted or noncompliance with the terms and conditions of the license or certificate of the lieutenant governor in council or of the minister, save where such nonuser or noncompliance has arisen from circumstances that were accidental, unavoidable, or not wholly within the control of the licensee. The minister alone shall, upon notice to the licensee, have the power of cancellation pursuant to this section, subject to an appeal to the lieutenant governor in council. (1909, c. 48, s. 255; 1912, c. 49, s. 49; 1913, c. 82, s. 76.)

258. Every order made or direction given by the lieutenant governor in council, the minister, the comptroller of water rights, the engineer of the water district, the water recorder, or the board shall be promptly obeyed. (1909, c. 48, s. 256; 1912, s. 49, s. 2; 1913, c. 82, s. 77.)

259. Every licensee shall, at his own expense, construct, secure, and maintain all ditches, flumes, pipes, and other conduits necessary for the passage of waste and superfluous water flowing from any works constructed by such licensee. (1909, c. 48, s. 257; 1913, c. 82, s. 78.)

260. It shall be the duty of every municipality or company holding a license for the supply of water for domestic purposes for the use of a municipality or unincorporated locality to provide a sufficient supply of water for prevention and extinguishment of fire, and for such purpose to provide, equip, place, and maintain a sufficient number of hydrants in such places as may be most readily available for such purpose, and the same to keep supplied with such sufficient quantity and force of water as the pressure at the head of the works will permit: *Provided*, That in the case of a company payment or tender shall first be made of the lawful charges, rates, and rentals payable in respect of the said hydrants. (1909, c. 48, s. 258; 1913, c. 82, s. 79.)

261. No licensee shall interfere with, damage, injure, or obstruct any works heretofore constructed or hereafter constructed under this act for the purpose of using, storing, or economizing the use of water. (1909, c. 48, s. 259.)

262. Every licensee exercising the powers granted by this act shall, with respect to the property of others, do as little damage as possible, and shall in all cases not hereinbefore provided for make adequate reasonable satisfaction to all persons whose property is damaged or injuriously affected by the exercise of such powers, to be, if the parties can not agree, ascertained by arbitration pursuant to the "arbitration act." (1909, c. 48, s. 260.)

263. Every licensee shall construct and secure all works in a proper and substantial manner and maintain the same in good condition and repair, to the satisfaction of the engineer of the water district, so that the same shall at all times be of sufficient strength and capacity for the fulfillment of the purposes for which they are constructed and used, and so that no damage shall occur to any road or work in its vicinity. (1909, c. 48, s. 261; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

264. Every licensee shall be liable for and shall make good, in such manner as the engineer of the water district shall determine, all damages to any public works which may be occasioned by or through such works breaking or being defective in construction, or out of repair, or of insufficient strength and capacity for the purposes, or any of them, for which they are constructed or are used. (1909, c. 48, s. 262; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

265. The rights, powers, privileges, and priorities created and conferred by and to be hereafter acquired, held, and exercised under this act by any municipality, company, or person shall be acquired, held, and exercised subject to and conditional upon the compliance with and observance by such municipality, company, or person with the provisions of the "health act." (1909, c. 48, s. 263.)

266. Every licensee, upon the production by any person of an order in writing signed by the minister, shall produce for inspection any maps, plans, specifications, drawings, and documents relating to the construction, operation, repair, or state of repair, of any of the works of such licensee. (1909, c. 48, s. 264.)

267. The engineer of the water district shall, on the application of any licensee, determine the duty of water with respect to any crop on any land of any other licensee, and for that purpose shall have all the powers conferred upon him by Part XII of this act. (1909, c. 48, s. 265; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

268. Notwithstanding the approval of the licensee's works, the engineer of the water district shall have power from time to time and at all times to order reasonable repairs, alterations, and improvements in the works to prevent any extraordinary loss by seepage. (1912, c. 49, s. 50; 1913, c. 82, s. 2.)

269. An appeal in manner hereinafter prescribed shall lie from any order made by the engineer of the water district under the last two preceding sections to the comptroller of water rights, and from him to the minister. (1909, c. 48, s. 267; 1912, c. 49, s. 2; 1913, c. 82, ss. 2, 80.)

Respecting highways and other ways.

270. All lands, highways, streets, roads, and ways disturbed by any licensee in any manner howsoever shall be restored by such licensee to their original condition as speedily as possible. (1909, c. 48, s. 268.)

271. All works, including the works of power companies operating tramways that pass upon, along, over, through, in, or under any highway, road, street, or way, or any part thereof, or adjacent thereto, shall be subject to the permission of and be constructed under the supervision and control of the minister or any person whom he may appoint for that purpose, who may, if thought expedient, give permission to operate on any highway or other way, and may fix the location of any or all of the said works, and direct the paving, macadamizing, repairing, and grading of such ways or any of them, and the construction, opening, and repairing of ditches, drains, and culverts along or across the said ways, and from time to time make such orders and give such directions as, in his opinion, may be fit and proper for the protection and convenience of the public. (1909, c. 48, s. 269.)

272. When any such works as last aforesaid are proposed to be constructed within the boundaries of any municipality, the permission of the council shall

be first had and obtained, and the construction of the works and their use thereafter shall be subject to such regulations, modifications, changes, matters, and things as the council may by by-law determine. (1909, c. 48, s. 270.)

273. Any person heretofore or hereafter engaged in the construction of any road or work may, with the sanction of the minister, cross, divert, or otherwise interfere with any ditch, water right, or other mining rights whatsoever, for such period and upon such terms as the minister shall direct and impose. (1909, c. 48, s. 271.)

274. Nothing herein contained shall be construed to limit the right of the minister to lay out from time to time the public roads of the province across, through, along, or under any ditch, water right, or mining right in any Crown land without compensation, provided that as little damage as possible shall be done. (1909, c. 48, s. 272.)

Of power companies.

275. The rights, powers, and privileges granted by this act to a power company shall be subject to the following obligations:

(*a*) The power company shall not interfere with the public right of traveling on or using any roads, streets, highways, or other ways.

(*b*) The power company shall not in any way obstruct the entrance to any door or gateway or free access to any building erected in the vicinity.

(*c*) The power company shall not affix within or without the corporate limits of any municipality any wire, if above ground, less than 20 feet above the surface of the street or road.

(*d*) The power company shall not erect more than one line of poles along any road or street within the said corporate limits without the consent of the municipality, nor outside a municipality, without the consent of the minister.

(*e*) In every municipality the poles of the power company shall be as nearly as possible perpendicular, and shall be painted, if so required by any by-law of such municipality.

(*f*) Whenever in case of fire it becomes necessary, for the extinction of fire or the preservation of property, that the poles or wires shall be cut, the cutting under such circumstances of the poles or any of the wires of the power company, under the direction of the chief engineer or other officer in charge of the fire brigade, shall not entitle the power company to demand or claim compensation for any damage thereby incurred.

(*g*) The power company shall be responsible for all damage which its agents, servants, or workmen cause to individuals or property in carrying out or maintaining any of its undertakings and works.

(*h*) Within the limits of any municipality the opening up of streets for the erection of poles or for carrying the wires underground shall be subject to the direction or approval of the engineer, or such other official as the municipality appoints, and shall be done in such manner as the municipality directs; the municipality may also direct and designate the places where the poles are to be erected in such municipality.

(*i*) The surface of the street shall in all cases be restored, as far as possible, to its former condition by and at the expense of the company.

(*j*) In municipalities all rails laid by the company shall be subject to the approval of the municipality.

(*k*) In all other places the rails shall be subject to the approval of the minister.

(*l*) To the general rights and prerogatives of the Crown. (1909, c. 48, s. 273.)

276. Where it shall so happen that any tramway constructed by the company shall pass through any narrow pass which is too narrow for the passage of another line of tramway without entailing great expense, any other company proposing to run a tramway line which would pass through the same pass or canyon shall be entitled to run their engines, cars, trucks, or other vehicles over, and have all other running powers over, the said first-mentioned line of tramway through such pass or canyon, for such a distance as will enable such second company to carry out the intention of its promoters without any unnecessary expense from the fact of the said pass or canyon being already occupied by such first-mentioned line of tramway. (1909, c. 48, s. 274.)

277. The exercise of any such running powers over any tramway line through such a pass or canyon shall entitle the company owning such line to compensation; and in case the parties interested therein can not agree upon the amount

to be paid, such amount shall be ascertained by arbitration pursuant to the "arbitration act." (1909, c. 48, s. 275.)

278. Every by-law, resolution, or minute of any company having the right to use, sell, or dispose of water or power procured or generated from water under this act fixing, and every other schedule or proceeding which fixes or determines the tolls, fares, rates, rents, or charges to be made, levied, or collected by such company shall, within 30 days after the passing or making thereof, be submitted to the minister for approval, who may approve or disapprove of the same, in whole or in part, and may adjust, increase, or decrease such tolls, rates, or charges as may be deemed expedient in the public interest. (1909, c. 48, s. 276; 1913, c. 82, ss. 2, 81.)

279. Every schedule or tariff of rates approved as aforesaid shall be published as may be directed by any rules on the subject, or as may be directed by the minister; and in any action brought against any person in respect of nonpayment of any charge thereunder, such person may plead as an answer to such action that the publication had not been made as aforesaid. (1909, c. 48, s. 277; 1913, c. 82, s. 2.)

280. When any company opens or breaks up the roadway or pavement of any highway or other way, or bridge, or any sewer, drain, or tunnel, it shall with all convenient speed complete the work for which the same shall be broken up, and shall fill in the ground, reinstate and make good the road or pavement or the sewer, drain, or tunnel so opened or broken up, and carry away the rubbish occasioned thereby, and shall at all times whilst any such roads or pavements shall be opened or broken up cause the same to be fenced and guarded, and shall cause a light sufficient for the warning of passengers to be set up and maintained against or near such road or pavement where the same shall be opened or broken up every night during which the same shall continue open or broken up. (1909, c. 48, s. 278.)

281. All water lawfully diverted from a stream and not consumed shall be returned, except where natural circumstances render it impossible, to the same stream unpolluted and undefiled. (1912, c. 48, s. 51.)

282. Any company having the right to use, sell, or dispose of water or water power, or power procured or generated by means of water or water power, and having a surplus of water, water power, or power procured or generated therefrom as aforesaid, not used or sold, shall, upon the payment or tender thereto of the amount of the charges or tolls legally charageable in respect thereof, and upon the approval of the board of investigation or upon the order of the said board, convey and deliver to any person or company desiring to use the same such surplus of water, water power, or power procured or generated therefrom as aforesaid, or such reasonable part thereof as may be required, and shall continue to so convey and deliver the same so long as the said surplus exists and the said payment or tender be made as aforesaid. (1909, c. 48, s. 280; 1913, c. 82, s. 82.)

283. Any company or person desiring to exercise the right by the last preceding section conferred of obtaining the use of surplus water, water power, or power procured or generated therefrom as aforesaid must procure and finish all necessary means of conveyance and all necessary appliances for the taking and using of such surplus water, water power, or other power as aforesaid. (1909, c. 48, s. 281.)

Limitations on power to purchase.

284. No undertaking or work of any municipality and no record, license, or privilege appurtenant thereto shall be taken or purchased by any other municipality, or by any company under this act, except—

(*a*) With the consent of the municipality owning such undertaking or work; or

(*b*) Under authority of an order in council, made by the lieutenant governor in council, upon its being made to appear that such taking or purchase is necessary or expedient in the public interest. (1909, c. 48, s. 282.)

285. No recorod or license for municipal or power purposes shall be assigned or transferred, except under authority of an order in council, made by the lieutenant governor in council, upon application made for that purpose and upon its being made to appear upon such application that such purchase is necessary or expedient in the public interest. (1909, c. 48, s. 283; 1911, c. 59, s. 22; 1912, c. 49, s. 52.)

286. In the event of the compulsory purchase of any undertaking or work, under authority of an order made by the lieutenant governor in council under

and by virtue of the last two preceding sections, the purchasing company or municipality shall pay to the municipality or company from which such compulsory purchase is made the cost of construction and a sum sufficient to make up the interest on the capital invested in cost of construction and maintenance to the amount of 15 per cent per annum to date of purchase, after taking into account any profit that may have been made up to that time, and a further sum equal to a bonus of 30 per cent on the capital actually invested:

(*a*) In arriving at the sum to be paid by such purchasing company, the words "cost of construction" shall be deemed to include—

(1) All sums of money actually and bona fide spent in and about the organization of the company, including all engineering, legal, and clerical expenses, and all sums of money actually and bona fide spent by the municipality or company in securing powers, rights, privileges, or priorities in respect of or relating to the undertaking or work purchased.

(2) All sums of money actually and bona fide spent in and about the construction and maintenance of the said undertaking or work up to date of purchase of the said works and property.

(3) All sums paid by the municipality or company as and for damages, value, and compensation to any person for the purchase or expropriation of land, records, and privileges passing with or appurtenant to the undertaking or work purchased.

(4) All, or any sum or sums, reasonably and actually paid by the municipality or company to any person in respect of the undertaking or work purchased and not hereinbefore enumerated. (1909, c. 48, s. 284.)

Respecting free miners.

287. Where one or more licensees have been authorized to divert all the water from any stream for mining purposes, and placer mines have at any time been properly located and bona fide worked either above or below the point of diversion, the owners of such placer mines shall be entitled, if the quantity of water diverted by the said licensee or licensees does not exceed five and sixty one-hundredths cubic feet per second, to the continuous flow in the stream past or to divert water into, upon, or through such mine or mines one and sixty-eight one-hundredths cubic feet of water per second. If the licensee or licensees be diverting eight and forty one-hundrdedths cubic feet per second, then the said miners shall be entitled to the continuous flow or diversion as aforesaid of two and fifty-two one-hundredths cubic feet per second. The flow of water in this section provided for shall be for such distance above and below the said placer mines as is necessary for the continuous and economical working of the said placer mines, and carrying away of tailings and débris arising therefrom. (1909, c. 48, s. 285.)

288. It shall be lawful for the owners or occupiers of any mine traveserd by the tramway of a power company to lay down upon their own land or mine any collateral branches of tramway to connect with the power company's tramway for the purpose of bringing trams to or from such company's tramway, and the power company shall, on such terms and conditions as may be agreed upon by the power company and the owner or owners of such mine, make such switches as may be necessary for effecting such communication, and make contracts for the carriage of freight and ore by the power company, and for the supply of electricity by the said company. And the powers in this section may be exercised by any mining company working or owning any mine, whether such powers are or are not contained in the memorandum of association or articles of association, or regulations, or partnership articles of such company. (1900, c. 48, s. 286.)

Inspection of works.

288a. In addition to all other powers conferred upon him by this act, the minister may—

(*a*) At the request of any person residing on or owning land in the neighborhood of any works, whether constructed under this or any former act, or otherwise howsoever; or

(*b*) If the minister deems it expedient in the public interest—

direct that such works be inspected by the engineer of the water district or by an engineer appointed by the minister to make such inspection.

288b. The minister may require the person making the request for such inspection to make a deposit of such sum of money as the minister thinks necessary to pay the expenses of such inspection.

288c. If such an inspection is directed, the engineer so appointed shall have the right to and shall make such inspection, and shall report to the minister the condition, security, and stability of the said works.

288d. In case the request appears to the minister not to have been justified, he may cause the whole or part of the expenses to be paid out of the deposit made by the person requesting the inspection.

288e. If the application appears to the minister to have been justified, he may order the holder of the record or license granted in respect of the said works, or the owner of the said works, to pay the whole or any part of the expenses of the inspection, and such payment may be enforced as a debt due to the Crown.

288f. If the said engineer reports to the minister that the said works have not been constructed in accordance with the terms and conditions of any certificate in respect thereof granted by the lieutenant governor in council or the minister, or that an addition to or alteration in the works is required to insure the stability thereof, the minister may, by notice in writing to the holder of the record or license, or to the owner, as the case may be, direct that such certificate be complied with, or that such addition or alteration be made, and may in such notice fix the time for complying with such certificate or making the addition or alteration.

288g. If the directions of the minister contained in said notice are not complied with within the time so fixed, the minister shall forthwith issue a certificate to that effect, reciting the facts, and thereupon the lieutenant governor in council may cancel the said record or license. (1912, c. 49, s. 53; 1913, c. 82, ss. 2, 83.)

PART XV.—MISCELLANEOUS.

General.

289. The engineer of the water district shall, in the district or districts for which he may be appointed, have immediate direction and control of the diversion, storage, and distribution of the water, and shall have such powers not inconsistent with this act as are conferred by this act and rules, and discharge such duties as are imposed upon him by this act or rules. (1909, c. 48, s. 287; 1912, c. 49, ss. 2, 54; 1913, c. 82, s. 2.)

289a. (1) Any licensee or riparian proprietor aggrieved or prejudiced by the illegal, the excessive diversion, or the waste of water, or by the noncompliance by a licensee or holder of a water record with the terms and conditions of the license or record, or of the certificate of the lieutenant governor in council or the minister, or of the approval of the works granted under this or some former act, may apply to the engineer of the water district to restrain or regulate such diversion, or for an order that the licensee or record holder comply with the terms and conditions of the said license or record and of the said certificate.

(2) Upon any such application the engineer of the water district shall forthwith issue a notice directed to the person whose acts are objected to (hereinafter called "the defendant"), requiring him, within not less than two clear days after the service of the notice, to show cause why he should not be restrained wholly or partially from such illegal or excessive diversion or waste. The notice shall state the time and place of the proposed inquiry. The engineer of the water district may also direct notice to be served upon any person who in his opinion is likely to be affected by the application.

(3) The time fixed by the engineer of the water district for making the inquiry shall be as soon after the application as is reasonably convenient.

(4) The complainant shall cause the notices to be personally served upon the defendant.

(5) Where personal service can not be speedily effected the notice may be left at the dwelling place of the defendant. Service on a municipality or company may be effected by serving the notice upon the mayor, reeve, or other head officer, or the city or municipal clerk of the municipality, or the cashier, manager, superintendent, treasurer, secretary, clerk, or agent of such company, or of any branch or agency thereof in the province.

(6) The engineer of the water district, upon an application as aforesaid, may exercise any of the following powers:

(*a*) Make, either before or at the hearing, a personal examination of the stream and of the works of any or all parties interested, and may act upon such examination and the information derived therefrom in order to arrive at a just conclusion.

(*b*) May appoint a disinterested person, being a civil engineer, to examine the stream and works of any or all parties interested and may act upon the report of such engineer.

(*c*) Require any person to attend and give evidence before him.

(*d*) Administer an oath to any person intending or compelled to give evidence.

(*e*) Adjourn the hearing from time to time, as may be necessary.

(*f*) Extend the time fixed for hearing any application or the performance of any matter or thing directed to be done.

(*g*) Make an order wholly or partially restraining or regulating the diversion or waste of water or determining the quantity to be diverted, or that the licensee or record holder do comply with the terms and conditions of the said license, record, or certificate.

(*h*) May recommend to the minister that the license or record and certificate be canceled.

(*i*) Pending the hearing may make any order in connection with the matter that to him may seem just.

(7) Any person aggrieved by or dissatisfied with any order made by an engineer of the water district under this section may appeal therefrom to the minister in manner provided by section 322 of this act. (1912, c. 49, s. 55; 1913, c. 82, s. 2.)

290. Whenever the board, the comptroller of water rights, the water recorder, or the engineer of the water district finds it is necessary to compel the attendance of witnesses, they or he shall for that purpose have all the powers and jurisdiction of a justice of the peace under the "summary convictions act." (1909, c. 48, s. 288; 1912, c. 49, s. 2; 1913, c. 82, s. 84.)

291. Any riparian proprietor, and this shall include preemptors, homesteaders, and lessees from the Crown, whether in the right of the province or the dominion, may, without making the Crown a party, maintain an action and take any proceedings in any court of competent jurisdiction to prevent any unlawful or wrongful diversion of water. (1909, c. 48, s. 289.)

292. Licenses and records to use water for irrigation purposes and the works connected and used with such licenses and records may, when the place where the water is used is situated wholly within the boundaries of any municipality, be acquired by such municipality with the consent of the licensee, and upon the approval of the board of investigation, for such consideration and upon such terms as may be mutually agreed upon. (1909, c. 48, s. 290; 1910, c. 52, s. 8; 1913, c. 82, s. 85.)

292a. A municipality which has acquired licenses under the last preceding section may surrender the licenses so acquired, and obtain from the comptroller of water rights, in substitution therefor, licenses of the same priority and for the same quantity of water extending the use of the water to any point of the municipality. (1912, c. 49, s. 56.)

293. Such municipality as last aforesaid may, in arranging the terms of purchase with the licensee or record holder, assume any obligations of the licensee or record holder with respect to the distribution of water. (1909, c. 48, s. 291; 1910, c. 52, s. 9.)

294. Before acquiring any rights and assuming any obligations under the last two preceding sections, the municipality shall submit a by-law to the voters of the municipality as in the case of a by-law to authorize the borrowing of money. (1909, c. 48, s. 292.)

295. After the passing of the by-law authorizing the purchase of the water rights hereinbefore referred to, and the completion of the purchase, the municipality shall fulfill all the obligations whatsoever of the licensee or record holder whose rights have been purchased, control and regulate the distribution of the water, and, subject to the rules, fix the price thereof. (1909, c. 48, s. 293; 1910, c. 52, s. 10.)

Abandonment of rights.

296. Any licensee or record holder may, by notice in writing to the water recorder, abandon the whole or any part capable of separation of the rights, powers, and privileges acquired: *Provided, however,* That where any heredita-

ments to which a record of or a license to take and use water is appurtenant are mortgaged or charged, no abandonment of such record or license and rights shall be effective without the consent of the mortgagee or chargee. (1909, c. 48, s. 295; 1912, c. 49, s. 2.)

297. In the book kept for the purpose of recording licenses and opposite to, across, or in the margin where such original entry is made, the water recorder shall record the fact of such abandonment, and shall carefully file the notice of abandonment or reference. (1909, c. 48, s. 296; 1912, c. 49, s. 2.)

298. Whenever a mine shall be worked out or abandoned, or a preemption record of land shall be abandoned or canceled, or whenever the occasion for the use of water upon such mine or preemption shall have permanently ceased, any record of or license to use water in respect of such mine or preemption shall be void, and shall be canceled in the book of records or the register of licenses accordingly. (1909, c. 48, s. 297; 1912, c. 49, s. 57.)

Indian rights.

299. The minister, with the approval of the lieutenant governor in council, may, upon such terms and conditions as to compensation to persons affected as the minister may think proper to impose, authorize the issuance of a license to any Indian agent as trustee for the benefit of all or any of the Indians located on any Indian reserve of so much of any unrecorded water from any stream as may be reasonably necessary for domestic and irrigation purposes upon such reserve:

(*a*) No license shall be issued under this section unless and until—

(1) The provisions of this act as to applications to take, use, or store water have been satisfied.

(3) The Indian agent has served upon or forwarded by registered letter to each person who may be affected by the proposed diversion a copy of such notice.

(4) The comptroller of water rights has reported thereon in writing to the minister as to the volume of water in the stream from which the water is proposed to be taken; the damage or benefit likely to accrue from such diversion to the landowners or other persons having water rights on such stream from which it is proposed to divert the water; that the amount of water asked for is necessary and reasonable, and as to such other particulars as the minister may from time to time require. (1909, c. 48, s. 298; 1912, c. 49, ss. 2, 58; 1913, c. 82, s. 86.)

300. The minister may, with the approval of the lieutenant governor in council, alter, vary, or cancel any license issued under the last preceding section upon such terms and conditions as he may deem proper. (1909, c. 48, s. 299; 1912, c. 49, s. 59.)

301. No license under section 299 of this act shall be granted unless and until the minister has been satisfied that the terms and conditions as to notice have been complied with and compensation (if ordered) has been paid. (1909, c. 48, s. 300; 1912, c. 49, s. 60.)

302. All questions connected with the diversion of water under section 299 of this act, compensation for damages, quantity of water required, shall be decided in a summary manner by the minister, and the minister may in writing direct any water recorder, engineer of a water district, or justice of the peace to take on oath the evidence of any person who can give evidence on, or whose evidence is material to the decision of the matters in question; and such water recorder, engineer, or justice of the peace shall have full power and authority to take such evidence and to summon before him such persons. (1909, c. 48, s. 301; 1912, c. 49, s. 2; 1913, c. 82, s. 87.)

Naming streams.

303. The comptroller of water rights shall give every stream, whether already named or not, or whether known by one or more names, an official name, and such stream shall thereafter be known by that official name and no other, and shall be so described and known in all maps and plans and all official documents whatsoever. (1909, c. 48, s. 302; 1912, c. 49, s. 2.)

304. The comptroller of water rights shall in naming streams have some regard to the name on any existing official map, and after finally naming a stream shall promptly report his action to the minister. (1909, c. 48, s. 303; 1912, c. 49, s. 2.)

305. So soon as a water-rights map of any locality is prepared, the name of any stream appearing on the said map shall be the official name of the stream, and it shall be known and described on all maps, plans, and official records or documents by that name and no other. (1909, c. 48, s. 2 [part]; 1913, c. 82, s. 88.)

Securities.

306. Save where in this act it is otherwise provided, the security to be given before entry upon the lands of private owners for the purpose of surveying only shall be to the satisfaction of the water recorder. In all other cases it shall be to the satisfaction of the minister. (1909, c. 48, s. 304; 1912, c. 49, s. 2.)

307. Every security required by this act shall be by a bond in double the amount of security required, and shall be given to the attorney general of the Province, who may, if and when it becomes necessary, assign it to any person or persons injured or claiming to be injured by the obligor, or sue on it himself, as he may deem expedient. (1909, c. 48, s. 305.)

Respecting rents, royalties, etc.

308. The lieutenant governor in council may from time to time, by order in council, reserve and fix such rents, royalties, tolls, and charges in respect of the water used or taken and used, and of the lands of the Crown used, and of the rights, powers, and privileges which may be acquired by any licensee under this act. (1909, c. 48, s. 306.)

309. The rents, royalties, tolls, and charges so fixed as aforesaid shall not be altered or changed save with the consent of the licensee affected by such alteration or change for three years after the passing of any order in council fixing the same. (1909, c. 48, s. 307.)

310. Subject as in the last preceding section mentioned, the lieutenant governor in council may repeal any order in council reserving and fixing rates and charges as aforesaid, or alter the same, as may be deemed expedient. (1909, c. 48. s. 308.)

311. The rents, royalties, tolls, and charges reserved and fixed as aforesaid may be founded on the power produced or producible, the area of land to be served, the benefits derived, the quantity of water used, or the value of the privileges granted, as may be deemed expedient. (1913, c. 82, s. 89.)

312. Every by-law, resolution, or minute of any company having the right under this act or any former act to sell, barter, or exchange water or water power, or power generated by means of water or water power, fixing and every schedule or proceeding which fixes or determines, the tolls, fares, rates, rents, or charges to be made, levied, or collected by such company, shall, within 30 days after the passing or making thereof, be submitted to the lieutenant governor in council for approval, who may approve of disapprove of the same, in whole or in part, and may adjust, increase, or decrease such tolls, rates, or charges, and may set out and determine the period of time during which such by-law, resolution, minute, schedule, or proceeding shall remain in force, as may be deemed expedient in the public interest. (1909, c. 48, s. 310; 1911, c. 59, s. 23; 1913, c. 82, s. 90.)

313. Notice of intention to submit for approval any schedule under the last preceding section shall be advertised in the Gazette and in a newspaper published, or if none is published, circulating in the district where the powers are being or to be exercised for three weeks prior to approval being granted; and such notice shall set forth the schedule submitted. (1911, c. 59, s. 24 [part.])

314. Any person who may be affected by the schedule in section 312 of this act mentioned shall have the right to be heard before the lieutenant governor in council on the fixing of the proposed schedule, and the lieutenant governor in council may appoint a day for such hearing. (1911, c. 59, s. 24 [part].)

315. Every schedule or tariff of rates approved as aforesaid shall be published as may be directed by any rules on the subject, or as may be directed by the lieutenant governor in council; and in any action brought against any person in respect of nonpayment of any charge thereunder, such person may plead as an answer to such action that the publication had not been made as aforesaid. (1909, c. 48, s. 312.)

Reservations.

316. (1) The lieutenant governor in council may at any time, by notice signed by the minister and published in the Gazette, reserve from being taken or used or acquired under this act any unrecorded water in any stream or any portion thereof.

(2) Where any reservation of unrecorded water is made as aforesaid the lieutenant governor in council may, in the order making such reservation or in any subsequent order or orders, declare and specify that the water is reserved for the use of the Crown, or for municipal purposes, or for the purpose of making provision wherever it appears expedient as a source of supply for a waterworks system or power system, or for the purpose of storing water, or for such other purposes as may be deemed advisable, and may specify and declare the terms and conditions upon which the unrecorded water so reserved shall be available and may be acquired under this act from the Crown for use in respect of the purposes for which it has been so reserved.

(3) An order in council establishing a reserve of water shall contain a direction for a record of the amount of water so reserved, with all necessary particulars; and the comptroller of water rights shall cause the necessary records thereof to be made.

(4) If such reservation is made for a specified purpose, the record thereof shall not prevent the issuing and acquiring of licenses subject thereto, and for the purpose of taking and using the water in the interim prior to the establishment of a system for such purpose; but no rights to compensation shall be acquired by virtue of any license issued pursuant to this subsection. (1912, c. 49, s. 61.)

317. It shall be lawful for the minister to enter into an agreement or agreements with any company holding any water records or water privileges or licenses by or under which, on the erection and completion by the company of a pulp mill or a paper mill of such capacity as shall be provided for in such agreement, all the said water records, licenses, or water privileges held by the company shall be reserved to the company without liability to forfeiture, except for nonpayment of fees, for a period not exceeding 21 years from the date of such agreement, and providing for the payment of fees to the Government of the Province for the said period of 21 years in accordance with the schedule of fees which shall be in force at the date of the said agreement. After the said period of 21 years the scale of fees shall be fixed under such conditions and regulations as may be deemed advisable and determined by the lieutenant governor in council. The said agreement may contain such terms and conditions as the lieutenant governor in council may deem advisable. (1901, c. 64, s. 2.)

318. The lieutenant governor in council may cancel any reservation of unrecorded water made under section 316 of this act, but the order in council providing for the cancellation shall not take effect until notice thereof shall have been published for three months in the Gazette and in some newspaper published or, if none is published, circulating in the district in which the unrecorded water proposed to be affected is situate. (1909, c. 48, s. 313; 1912, c. 49, s. 62.)

Correction of errors in licenses.

319. Whenever a license under this act has been imperfectly issued, or has been issued without compliance with all of the terms of this act, or contains some inaccuracy which can be corrected without affecting the rights of other parties, or which is incomplete or indefinite in its terms and conditions, the board of investigation may, upon the application of the holder of such defective license, amend the same, or may cancel the same and grant a new one in its stead, which new or amended license shall relate back to the date of the original and shall operate as if issued at the date of such original license; but the quantity of water to be taken under such new or amended license shall not be increased, nor the area in respect of which the former license was used or held be enlarged. (1909, c. 48, s. 314; 1912, c. 49, s. 63; 1913, c. 82, ss. 91, 92.)

320. The licensee intending to apply to have a license amended under the provisions of the last preceding section shall give 30 days' notice in the Gazette and in a local newspaper of his intention to apply for an amendment, with the particulars required to be given in the notice of application under sections 54 and 55 of this act, and shall give to all holders of subsequent licenses and to all applicants for licenses upon the same stream 10 days' notice of the amend-

ments applied for. Where personal notice can not be effected, the board of investigtaion may direct what notice shall be given. (1912, c. 49, s. 64; 1913, c. 82, s. 91.)

321. Upon any application for an amended record as aforesaid, the board of investigation shall hear all persons who appear in opposition thereto, and shall adjudicate thereupon as in the case of disputed applications under Part V of this act. An appeal shall lie from any such decision to the minister in manner hereinafter prescribed. (1909, c. 48, s. 316; 1912, c. 49, s. 2; 1913, c. 82, s. 91.)

Respecting appeals.

322. In all cases where the right to appeal from the water recorder or the comptroller of water rights to the minister, or from the minister to the lieutenant governor in council, is given by this act, such appeal shall be a rehearing by petition and be regulated as follows:

(*a*) Be entitled "In the matter of this act and of the special matter of the appeal," and shall name as respondents those who in the proceedings before the comptroller of water rights or the minister were adverse in interest to the appellant.

(*b*) Set out fully the order and other matter complained of and all the facts relative thereto as they appeared before the comptroller of water rights or the minister, and all documents relating to the subject, and shall state the persons upon whom the petition has been served, and shall be verified by the petitioner's affidavit.

(*c*) The petition shall be presented to the minister, or, if the appeal is from him, then to the provincial secretary, within 30 days of the making of the order appealed from, and a copy thereof shall be served upon all parties adverse in interest before the comptroller of water rights or the minister.

(*d*) Upon the receipt of the petition, the minister or the provincial secretary, as soon as conveniently may be, shall fix a place, day, and hour for hearing the petition, and may direct that a copy of the petition shall be served upon any other person or persons as he may think proper. The time to be fixed by the minister or the provincial secretary as aforesaid shall be so arranged as to enable the respondent to put in his answer.

(*e*) Within 10 days of the service of the petition the respondent or any of the persons served with the petition and affected by the appeal may file an answer with the minister or the provincial secretary, as the case may be, and shall serve a copy thereof on the appellants.

(*f*) The lieutenant governor in council or the minister may make any order in the matter that may be deemed just so as to bring the parties interested before the lieutenant governor in council or the minister for the termination of the matter, and for that or any other purpose may extend the times hereinbefore mentioned as may be deemed expedient.

(*g*) Upon the hearing of the petition, the lieutenant governor in council or the minister, as the case may be, shall determine the matter upon its merits and make such order thereon as shall be deemed just. (1909, c. 48, s. 317; 1912, c. 49, s. 65 and 2.)

Lieutenant governor's certificate.

323. Any certificate granted by the lieutenant governor in council or by the minister pursuant to this act, and any record or license set out in such certificate, shall, if such record, license, or certificate shall not have been canceled or legally declared null and void under any provisions of this act or otherwise, be conclusive evidence in any court of law or other tribunal in the Province of all matters and things therein contained, and shall not be inquired into or disturbed in any manner whatsoever, save in some proceeding to which the attorney general of the Province is a party, or by petition of right, or by the consent or at the request of the lieutenant governor in council expressed through the said attorney general: *Provided*, That if the said certificate or the said license has been amended under this act, then the said certificate or license as amended only shall be conclusive evidence as aforesaid. (1913, c. 82, s. 93.)

PART XVI.—RULES, REGULATIONS, AND PENALTIES.

Rules.

324. The lieutenant governor in council or the minister may refer any matter, question, or thing to the board of investigation or to any person whatsoever for

the purpose of obtaining information or making any inquiry or taking any account upon oath, or otherwise, and may act upon the report of such referee or not as may be deemed expedient. (1909, c. 48, s. 319; 1913, c. 82, s. 94.)

325. The lieutenant governor in council may from time to time make, alter, and repeal rules and regulations for carrying out the spirit, intent, meaning, and purpose of this act, including matters in respect whereof no express or only partial or imperfect provision has been made, and, without restricting the generality of the foregoing, in respect of the following matters and things:

(*a*) The time and place of payment and the collection and enforcement of payment of rents, royalties, tolls, and charges.

(*b*) The powers, duties of, and jurisdiction of the comptroller of water rights, the water recorder, the engineer of a water district, and other officers and persons necessary to give effect to this act.

(*c*) Head gates, weirs, flumes, water gates, and all measuring devices, and the manner in which they are to be placed and used.

(*d*) The information required to obtain approval of works by licensees.

(*e*) The hearing of appeals, the presentation of petitions, and all other applications.

(*f*) Extension of time for presenting petitions and other applications.

(*g*) The issuance of certificates.

(*h*) Proceedings by municipalities to expropriate the water rights of others.

(*i*) Obtaining information for any purpose whatsoever.

(*j*) The entry upon, using, and taking of Crown lands, prescribing the conditions of such entry and use and the price to be paid for land and timber.

(*k*) Service of notices on any municipality, company, or person.

(*l*) The deduction for seepage and evaporation, and the mode of determining same.

(*m*) The books to be kept by water recorders and others.

(*n*) Respecting maps, plans, and specifications of any works.

(*o*) Classifying violations of this act, and providing penalties for each such violation.

(*p*) Prescribing the forms to be used under this act. (1909, c. 48, s. 320; 1912, c. 49, s. 2; 1913, c. 82, s. 95.)

Penalties.

326. If any person does or commits any of the following acts:

(*a*) Willfully or maliciously hinders, interrupts, or causes or procures to be hindered or interrupted, any municipality or company, or their managers, contractors, servants, agents, workmen, or any of them in the exercise of any of the powers and authorities by this act conferred.

(*b*) Willfully or maliciously lets off or discharges any water so that the same runs waste or useless out of any works.

(*c*) Being occupant, tenant, or inmate of any house, or otherwise, supplied with water by any municipality or company, sells or disposes of the water thereof or gives it away or permits it to be taken or carried away or uses it or applies it to the benefit of others, or to any other than his own use or benefit, or wrongfully neglects or improperly wastes the water.

(*d*) Not being in the employment of the municipality or company, and not being a member of the fire brigade and duly authorized in that behalf, willfully opens or closes any hydrant or obstructs the free access to any hydrant, stopcock, chamber pipe, or hydrant chamber, by placing on it any building material, rubbish, or in any other manner.

(*e*) Throws or deposits any injurious, noisome, or offensive matter into the water or waterworks, or upon the ice in case such water is frozen, or in any way fouls the water or commits any willful damage or injury to the works, pipes, or water, or encourages the same to be done.

(*f*) Willfully alters any meter of the waterworks placed upon any service pipe or connected therewith within or without any house, building, or other place, so as to lessen or alter the amount of water registered thereby, unless specially authorized by the said municipality or company for that particular purpose and occasion.

(*g*) Lays or causes to be laid any pipe or main to communicate with any pipe or main of the said waterworks, or wrongfully takes or appropriates to his own use any water from any public or private tap, or in any way obtains or uses any water of the said waterworks without the consent of the said municipality or company.

(*h*) Bathes or washes, or cleanses any wool, cloth, leather, skins, or animals, or places or permits any nuisance or offensive thing within or near the source of supply for any works used for domestic purposes in any stream from which the water for the said purposes is obtained or conveyed, or casts, causes, throws, or puts any filth, dirt, dead carcasses, or other noisome or offensive thing therein, or causes, permits, or suffers the water of any sink, sewer, or drain to run or be conveyed into the same, or causes or permits any other thing to be done whereby the water therein may be in anywise tainted or fouled.

(*i*) Without lawful excuse interferes in any manner whatsoever with any works—

such person shall for any such act, upon summary conviction, be liable to a penalty not exceeding $250, together with the costs and charges attending the proceedings and conviction, and in default of payment to imprisonment for a period not exceeding two years. (1909, c. 48, s. 321.) (Part new.)

(2) Any person who willfully, without authority, takes or diverts any water from any river, stream, lake, spring, or other waters, or from any works authorized under this act, and any licensee or other person who takes or diverts therefrom any greater quantity of water than he is entitled to, shall be liable, upon summary conviction, on a complaint laid by the water recorder or the engineer of a water district, to a fine not exceeding $5 per day or fraction of a day for each cubic foot per second or fraction of a cubic foot per second of water improperly diverted, or to imprisonment for a term not exceeding 30 days, or to both. (1909, c. 48, s. 321 [part new]; 1912, c. 49, s. 67; 1913, c. 82, s. 96.)

327. The conviction of any person or persons as in the last preceding section mentioned shall not relieve him or them from any liability to answer in damages to the municipality or company, or any other sufferer, by the wrongful acts aforesaid or any of them. (1909, c. 48, s. 322.)

328. Any licensee willfully violating any of the provisions of this act, or of the terms and conditions upon which the license has issued, or the approval of the comptroller of water rights or the lieutenant governor in council or the minister been obtained, or of the rules, shall, after the hearing provided for in the next two following sections, be liable to have his license forfeited and all the rights and privileges granted revoked and canceled, or to such other penalty as any rules on the subject may prescribe. (1909, c. 48, s. 323; 1912, c. 49, s. 2; 1913, c. 82, s. 2.)

329. Any person injuriously affected by such violation as aforesaid, or the water recorder or the engineer of a water district, may present a petition to the minister for relief and for the punishment of the offenders; and the proceedings in relation to such petition shall conform to any rules on the subject, and if there be no rules, then as nearly as may be to the proceedings on appeal to the lieutenant governor in council. (1909, c. 48, s. 324; 1912, c. 49, s. 2; 1913, c. 82, s. 97.)

330. Upon hearing any such application at last aforesaid, the lieutenant governor in council may revoke and cancel the license granted to the offender and declare all his rights and privileges forfeited or held in abeyance for such time as the lieutenant governor in council may direct or otherwise make any order respecting the matter as may be deemed expedient. (1909, c. 48, s. 325.)

331. Any person who shall in any way willfully obstruct or interfere with the undertaking and works of any municipality, company, or person shall, on summary conviction thereof, be liable to a penalty for every such offense not exceeding $100, together with costs, and in default of payment to imprisonment for a period of not more than two months. (1909, c. 48, s. 326.)

332. Any person molesting, interfering with, delaying, obstructing, or otherwise impeding any officer in the discharge or performance of any duty or the exercise of any authority under this act shall, in addition to any other penalty or action at law to which he may be liable, be liable, on summary conviction, to a fine not less than $20 and not exceeding $100, and, in default of payment, to imprisonment, with or without hard labor, for a period of not more than two months. (1909, c. 48, s. 327.)

333. Subject to any jurisdiction of the Dominion in this behalf, and to any acts passed in the exercise of such jurisdiction, no person shall throw, and no owner or occupier of a mill shall suffer or permit to be thrown, into any lake, river, stream, rivulet, or watercourse slabs, bark, sawdust, waste stuff, or other refuse of any sawmill, or stumps, roots, shrubs, tanbark, driftwood, or waste wood, or leached ashes, or fell or cause to be felled in or across such lake, river, stream, rivulet, or watercourse timber or growing or standing trees

and allow the same to remain in or across such lake, river, stream, rivulet, or watercourse. (1903, c. 28, s. 2 [part].)

334. Any person contravening the last preceding section shall incur a penalty not exceeding $10 and not less than $1 for each day during which such contravention of this act continues over and above all damages arising therefrom, and in default of payment of such penalty the offender shall be liable to imprisonment for a period not exceeding two months. (1903, c. 28, s. 2 [part].)

335. The provisions of the last two preceding sections shall not apply to a dam, weir, or bridge erected in or over such lake, river, stream, rivulet, or watercourse or to anything done bona fide in or for erecting the same, or to any tree cut down or felled across such lake, river, stream, rivulet, or watercourse for the purpose of being used as a bridge from one side thereof to the other, provided such tree does not impede the flow of water or the passing of rafts. (1903, c. 28, s. 3.)

336. Any penalty under this act may be recovered with costs upon summary conviction before any stipendiary magistrate, police magistrate, or justice of the pease. (1903, c. 28, s. 4.)

PART XVII.—SAVING CLAUSES.

337. Notwithstanding anything hereinbefore contained, it shall be lawful for the lieutenant governor in council, in remote districts and under special circumstances, to increase the quantity of water mentioned in Part VI, division (1), of this act, over which the water recorder may exercise the jurisdiction of approving of the works of the licensee. (1909, c. 48, s. 328.)

338. Applications under any former act not completed on the 12th day of March, 1909, may, if not yet completed, be continued to completion under such former act or under this act, as the applicant may elect. (1909, c. 48, s. 329.)

339. If the application be contained under any former act, then the applicant shall apply for and obtain a license under Part III or Part XI of this act. (1909, c. 48, s. 330.)

340. Save as last aforesaid, no proceedings shall be taken under any former public act to acquire any right to water or the use thereof. (1909, c. 48, s. 331.)

341. The holders of water rights under any former public act shall have all the rights and privileges granted licensees under this act, and shall be liable to all the obligations imposed by this act on licensees, but such rights shall be subject to investigation under Part III of this act. (1911, c. 59, s. 25.)

342. Notwithstanding the repeal of any former legislation, the rights and privileges acquired thereunder and the further right to complete any application pending on the 12th day of March, 1909, is hereby expressly preserved, subject, however, to all conditions and provisions of such repealed legislation, and to the provisions of this act applicable thereto. (1909, c. 48, s. 333.) (Redrawn.)

343. Subject to any Dominion statute or order in council governing the same—

(*a*) The provisions of said chapter 239 shall extend to the waters and streams within the railway belt, including all records, applications for records, licenses, applications for licenses, or claims to waters or water rights in respect thereof.

(*b*) The jurisdiction, duties, and powers of the board of investigation under the said act shall extend to all records, licenses, applications, and claims of or to the said waters and streams made prior to the pssing of this ct. (1912, c. 49, s. 68.)

344. Applications which have been made or filed with the water commissioner and not completed on the 27th day of February, 1912, may be continued to completion under the provisions of the former act or of the amending act of 1912, as the applicant may elect. (1912, c. 49, s. 69.)

345. Applications and petitions which have been made and filed under any former act not completed at the commencement of this act shall be continued to completion under the provisions of said chapter 239, as amended by said chapter 49 and by this act. (1913, c. 82, s. 98.)

346. Affidavits and declarations authorized to be made under the provisions of the "water act" or amendments thereto shall be made before one of the following officials having jurisdiction in the Province or the part thereof where such affidavits or declarations may be sworn or made, that is to say: A supreme or county court judge, a registrar of a court of record, a member of the board, the comptroller of water rights, a water recoder, an enginee of a water district, an engineer conducting surveys under the act, a government agent, the mayor of a city, the reeve of a municipality, a commissioner for taking affidavits, or any person authorized by the "land act" or by the "mineral act" to take affidavits and declarations. (1913, c. 82, s. 99.)

NEW SOUTH WALES.

Anno Secundo Edwardi VII Regis.

Act No. 51, 1902.—An act to consolidate the enactments relating to water rights. [Assented to 26th Aug., 1902.]

Be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:

PART I.—REPEAL AND INTERPRETATION.

1. This act may be cited as the "water rights act, 1902," and is divided into parts, as follows:

Part I.—Repeal and interpretation, sections 1–3.
Part II.—Rights of the Crown and of riparian proprietors, sections 4–7.
Part III.—Works for dams, locks, etc., sections 8, 9.
Part IV.—Licenses, sections 10–19.
Part V.—Powers of minister and governor, sections 20, 21.
Part VI.—General penalties and procedure, sections 22–24.
Part VII.—Miscellaneous provisions, sections 25, 26.

2. (1) The act sixtieth Victoria No. 20 is hereby repealed.

(2) All proclamations and regulations duly made, and licenses duly granted, and any matter or thing duly done under the authority of the act hereby repealed and being in force at the time of the passing of this act shall be deemed to be and to have been made or granted or done under the corresponding provisions of this act, and as if this act had been in force when the same were made, granted, or done respectively.

3. In this act, and in any regulations made thereunder, unless the context or subject matter otherwise indicates or requires—

"Crown lands" has the meaning given to that expression in the Crown lands act of 1884.

"Drainage" includes the draining of flood or other waters of rivers or lakes by means of any work; and "drainage work" includes a work constructed or used for the above purpose.

"Lake" includes a lagoon, swamp, or other collection of still water, whether permanent or temporary, not being water contained in an artificial work.

"Land district" means land district proclaimed under the Crown lands acts of 1884 or any act amending the same.

"Local land board" means the land board for the district in which a work is situated, or if the work be situated in more than one land board district, such land board as the minister may name.

"Licensed work" means a work in respect of which a license is held under this act.

"Occupier" means person in actual occupation.

"Prescribed" means prescribed by this act, or by any regulations under this act.

"River" includes any stream of water, whether perennial or intermittent, flowing in a natural channel, and any affluent, confluent, branch, or other stream into or from which the river flows.

"Water supply" includes a supply for the carrying on of any industrial operation.

"Work" includes any dam, lock, reservoir, weir, flume, race, channel (whether an artificial channel or a natural channel artificially improved), any cutting, tunnel, pipe, sewer, and any machinery and appliances.

"Work to which this act extends" means work connected with any river or lake flowing through or past or situate within the land of two or more occupiers, or with any water flowing in, to, or from, or being in any river or lake flowing or situate as aforesaid, whether such work be for water conservation, irrigation, water supply, or drainage.

PART II.—RIGHTS OF THE CROWN AND OF RIPARIAN PROPRIETORS.

4. (1) The right to the use and flow and to the control of the water in all rivers and lakes which flow through or past or are situate within the land of two or more occupiers, and of the water contained in or conserved by any works to which this act extends, shall, subject only to the restrictions herein-

after mentioned, vest in the Crown. And in the exercise of that right, the Crown, by its officers and servants, may enter any land and take such measures as may be thought fit or as may be prescribed for the conservation and supply of such water as aforesaid and its more equal distribution and beneficial use and its protection from pollution, and for preventing the unauthorized obstruction of rivers.

For the purposes of this subsection, "occupier" includes the Crown.

(2) The said right shall be subject to the following restrictions:

(*a*) It shall not be exercised in contravention of any right conferred on and lawfully exercisable by any person or board by or under the authority of any act dealing with mining, or of any public or private statute, or of any license granted by the Crown.

(*b*) It shall be subject to the rights hereinafter mentioned of the occupiers of land on the banks of rivers or lakes.

(*c*) It shall be subject to the rights of the holders of licenses under this act.

5. The occupier of land on the bank of a river or lake shall have the right to use the water then being in the river or lake for domestic purposes and for watering cattle or other stock, or for gardens not exceeding 5 acres in extent used in connection with a dwelling house, and it shall not be necessary for the occupier to apply for or obtain a license for any work used solely in respect of that right.

6. Where the Crown is by its officers, servants, or agents in occupation of a work to which this act extends, constructed by the Crown at any time, the Crown shall, subject to the provisions of this act, have the quiet enjoyment and sole and exclusive use of the said work as against all persons whomsoever, and shall be entitled to make such charges for the supply or use of the water conserved thereby as may be prescribed.

7. The right of the occupier of any work to which this act extends—

(*a*) To use the work for the purpose of water conservation, irrigation, or water supply, or drainage; or

(*b*) To take, use, or dispose of the water contained therein, conserved, or obtained thereby,

shall be subject to the provisions of this act.

PART III.—WORKS FOR DAMS, LOCKS, ETC.

8. (1) The governor may notify, by proclamation in the Gazette, proposals for dams, locks, weirs, channels, or drainage works to be constructed by the Crown, together with an estimate of the cost of the same.

(2) After such notification, the minister may refer any such proposal to the land board for the land district within which the proposed works would be, or to a land board for a land district adjacent to the site of the proposed work; and such land board shall thereupon forward a report to the minister describing the land which, in the opinion of the board, should be included in any water or drainage district to be constituted in respect of the said work.

(3) Upon receipt of such report the minister may, by notification in the Gazette, declare the land so described to be a district within which water or drainage charges may be levied. If, after such last-mentioned notification, a petition in favor of the proposal of the minister is presented to the land board signed by persons—

(*a*) Who constitute a two-thirds majority of the total number of those occupying land within the district; and

(*b*) Who occupy an area exceeding two-thirds of the total area within the district,

the board may report to the minister recommending that the proposal be carried out. Thirty days after the receipt of such report to that effect the minister may carry out the work out of funds legally available for the purpose unless an appeal to the land court affecting the same is pending, in which case all further proceedings shall be stayed until the appeal is decided.

Provided, That any such work shall be subject to the provisions of the public works act, 1900.

9. (1) Upon the work being completed the minister may direct the land board to assess in each and every case the water and drainage charges to be paid, which charges shall not exceed the yearly value to each occupier of the direct benefit accruing to his land from the work:

Provided, That the total of such charges shall not exceed £6 per cent of the cost to the Crown of the construction of such work.

(2) Every contribution so assessed shall be payable, at the times and in the manner prescribed, into the consolidated revenue fund.

(3) On the petition of persons liable in the aggregate to pay one-quarter of the total amount of the charges, or at the request of the minister, the land board shall make a fresh assessment of the charges to be paid.

PART IV.—LICENSES.

10. Any occupier of land, whereon any work to which this act extends is constructed or used, or is proposed to be constructed or used, for the purpose of water conservation, irrigation, water supply, or drainage, may apply to the peson and in the form prescribed, for a license to construct and use the said work, and to take, use, and dispose of the water contained therein, conserved, or obtained thereby.

11. On application being made for a license under the last section, the minister shall cause to be advertised, once in the Gazette and once in a public newspaper circulating in the neighborhood where the land is situate, a notice of the receipt of the application, stating that on a day therein named, and at a place therein named within the land district in which the land is situate, a public inquiry will be held as to the desirability of granting the application.

12. (1) The inquiry shall be held by the local land board by the direction of the minister, or by some person authorized by the minister in that behalf, and the local land board or the person so authorized shall report in writing to the minister.

(2) All persons whose interests appear to be affected by the granting of the application shall be permitted to attend at the inquiry and be heard in support of or in opposition to the granting of the application.

(3) Where any inquiry is held under this section by a person authorized by the minister as aforesaid, the applicant or any person so interested as aforesaid shall have a right of appeal from the report of such person to the local land board.

13. (1) The report of the person holding the inquiry by the authority of the minister or of the local land board or land court on appeal shall be published in the Gazette within the prescribed time after presentation thereof to the minister, and the minister shall, after the expiration of 30 days from such publication, where the report recommends the issue of a license, issue a license to the applicant in the prescribed form subject to such terms, limitations, and conditions, if any, as may be recommended in such report.

(2) *Provided*, That—

(*a*) No license shall be issued under this section pending any appeal or reference; and

(*b*) A license shall be issued only upon payment of a fee calculated in the manner and according to the scale set forth in the schedule to this act; and

(*c*) Before granting a license the minister may require such alterations to be made in or in connection with the work, or in the plans and specifications of the same, as may be recommended by the said report.

14. If two or more occupiers desire to construct any work to which this act extends, they may apply for a license to construct and use the said work in the manner prescribed for a single occupier, and such application will be dealt with as the application of a single occupier.

15. The license, if granted, shall in every case, except Class IV, be granted for a period not exceeding 10 years, and shall (subject to the provisions of this act with regard to the renewal of licenses, and subject to such limitations and conditions as the minister may think fit to make) be renewed by the minister from time to time on the application of the person holding the license on the payment of a fee calculated in the manner and according to the scale set forth in the schedule to this act:

Provided, That no renewal shall be for a longer period than 10 years.

16. Except in cases where a single license fee may be paid for combined works, as mentioned in the schedule to this act, a separate application for a license may be required in respect of each work; and the determination as to what work may be included in each license shall rest with the minister.

17. A license shall be deemed to be held by and shall operate and inure for the benefit of the lawful occupier for the time being of the land whereon the work is constructed or is proposed to be constructed.

18. Subject to the provisions of this act, or the regulations hereunder, the person holding a license under this act in respect of any work shall have abso-

lutely, during his lawful occupation of the work, so far only as the said work is constructed or maintained on the land occupied by him, the quiet enjoyment and the sole and exclusive use of the work as against all other persons whomsoever, including the Crown, and shall be entitled to take, use, and dispose of any water contained therein or conserved thereby.

19. If, during the time that a license under this act is in force in respect of a work, alterations have been made in or in connection with the work which materially and prejudicially affect the quantity or quality of water flowing in, to, or from, or being in any river or lake, the person who has made the alterations shall be liable to a penalty not exceeding £100, and, in addition to the imposition of the said penalty, the license may, by notice in the Gazette, be canceled and annulled:

Provided, That the holder of any license may during the currency thereof apply for an amended license allowing alterations in the work as originally licensed, and any such application shall be dealt with as hereinafter provided in respect of applications for a license in the first instance:

Provided also, That the operations herein referred to shall not apply to any repairs or alterations rendered necessary for maintenance of any sudden or unforeseen emergency.

PART V.—POWERS OF MINISTER AND GOVERNOR.

20. (1) For the purposes of this act the minister, or any person authorized by him, may enter on any land and take levels and make surveys and marks, and fix pegs and stakes, and inspect any works.

(2) Any person who removes, injures, or interferes with any marks made, or pegs or stakes fixed as aforesaid, shall be liable to a penalty not exceeding £50, or to imprisonment for a term not exceeding three months.

21. (1) The governor may make regulations prescribing the forms of licenses and of renewals of the same, and for carrying out the provisions of this act; and may, in such regulations, impose any penalty not exceeding £50 for each breach of the same, or where the breach is a continuing one, not exceeding £5 for every day during which the breach continues.

(2) A copy of all such regulations shall be laid before the legislative council and legislative assembly without delay.

PART VI.—GENERAL PENALTIES AND PROCEDURE.

22. Any person who maliciously cuts, breaks, or destroys, or damages with intent to destroy or render less useful any licensed work or any work to which this act extends constructed by the Crown shall be liable on indictment to imprisonment, with or without hard labor, for a term not exceeding five years.

23. Any person who obstructs or hinders any person while performing any duty which he is authorized by this act, or by any regulation made thereunder, to perform, shall be liable to a penalty not exceeding £50, or to imprisonment for a term not exceeding three months.

24. Fees and charges payable under, and penalties imposed by this act, or any regulation made thereunder, may be recovered before, and charges in respect of offenses under this act (not being offenses made punishable on indictment) may be heard and determined by a police or stipendiary magistrate, or any two justices of the peace in petty sessions.

PART VII.—MISCELLANEOUS PROVISIONS.

25. Any report, recommendation, or decision of a land board under this act shall be subject to an appeal or reference to the land appeal court in the manner prescribed by the Crown lands act of 1884, or any act amending the same, or any regulations made thereunder. The decision of the said court shall be final.

26. All fees and charges payable under this act shall be paid into the consolidated revenue fund.

SCHEDULE.

For the purpose of fixing scales of fees, works shall be divided by the minister into the following classes:

Class I consists of the following works in or connected with rivers, which, in the opinion of the minister, flow in the neighborhod of the works six months

or longer in the year, on an average being taken of the 10 years immediately preceding the making of the application: (*a*) Dams and weirs for supplying water by gravitation, through natural or artificial channels, for irrigation or other purposes. (*b*) Artificial channels or natural channels artificially improved through which, without the aid of a dam or weir, water is or may be supplied by gavitation for irrigation or other purposes.

Class II consists of the following works in or connected with rivers, which, in the opinion of the minister, flow in the neighborhood of the works less than six months in the year, on an average being taken of the 10 years immediately preceding the making of the application: (*a*) Dams and weirs for supplying water by gravitation, through natural or artificial channels, for irrigation or other purposes. (*b*) Artificial channels or natural channels artificially improved through which, without the aid of a dam or weir, water is or may be supplied by gravitation for irrigation or other purposes.

Class III. Pumping machinery and other water-lifting appliances exclusive of those where the motive power employed does not exceed 1 horsepower.

Class IV. Dams and weirs for storing water and not included in Class I or Class II.

Class V. Flood gates for drainage purposes on the banks of rivers or lakes, and artificial channels or natural channels artificially improved emptying or draining into a river or lake.

Fees for granting or renewing licenses.

The following license fees payable on the granting or renewing of licenses will in each case cover the period for which the license is granted or renewed.

Class I. The license fee to be paid in respect of a work included in this class shall be calculated as follows: The minister, or some person authorized by him in that behalf, shall determine the amount of water per minute which can be supplied to the licensee by the work, and the fee payable is hereby fixed at the rate of 2 pounds for every 750 gallons, or portion of 750 gallons of water per minute so determined as aforesaid up to and including 37,500 gallons per minute, and for water which can be supplied as aforesaid above that amount, at the rate of 4 pounds for every 3,750 gallons or portion thereof per minute.

Class II. The license fee to be paid in respect of a work included in this class shall be calculated as follows: The amount of water per minute which can be supplied by the work shall be determined in the same way as in the case of works included in Class I, and the fee payable is hereby fixed at the rate of 2 pounds for every 1,500 gallons or portion of 1,500 gallons of water per minute so determined as aforesaid up to and including 37,500 gallons per minute, and for water which can be supplied above that amount as aforesaid, at the rate of 2 pounds for every 3,750 gallons or portion thereof per minute.

Class III. The license fee to be paid in respect of a work included in this class shall be as follows: (*a*) Where the motive power employed or to be employed does not exceed 1 horsepower no charge for a license shall be made. (*b*) Where the pumping machinery or other water-lifting appliances can, in the opinion of the minister, be used to obtain water from a river or lake for irrigation or other purposes for a period of at least six months annually, without the aid of a dam or weir, the license fee shall be the same as in Class I. (*c*) Where the pumping machinery or other water-lifting appliance can, in the opinion of the minister, be used to obtain water from a river or lake for irrigation or other purposes for a period of less than six months annually, without the aid of a dam or weir, the license fee shall be half that payable under the last preceding paragraph. (*d*) Where, with the aid of a dam or weir, the pumping machinery or other water-lifting appliance will, in the opinion of the minister, deliver water for irrigation or other purposes during at least six months annually, the license fee for the combined works shall be a mean between the fee payable under Class I and that payable under Class II. (*e*) Where, with the aid of a dam or weir, the pumping machinery or other water-lifting appliance will, in the opinion of the minister, deliver water for irrigation or other purposes for a period of less than six months annually, the license fee for the combined works shall be half that payable under the last preceding paragraph.

Class IV. The license fee for a work included in this class shall be 1 pound.

Class V. The license fee for a work included in this class shall be 1 pound.

SYNOPSIS OF PRESENT ITALIAN LAW FOR THE REGULATION OF WATER-POWER CONCESSIONS.

A concession is granted for a period not in excess of 30 years renewable in favor of the first concessionaire unless he has attained in the opinion of the administration the purpose for which the concession was granted.

Concessionaire under certain conditions prescribed by the administration can change purposes and equipment of plant. In articles 2 and 3 of this law jurisdiction depends upon the importance of the diversion which is divided into two classes. For the first case a royal decree is necessary and for the second the prefect has jurisdiction. Article 3 of the law provides in part as follows:

Whenever application is made for concession for a diversion of the first class, consideration thereof shall be preceded by an examination by a permanent special commission, to determine whether, irrespective of the application in hand, any legitimate public interest or any present or future need of the nation interferes with the granting of a concession. This commission is appointed at the beginning of each year, from members of the higher board of public works, of the high committee on tariffs, of representatives, of the high legal counsel of the treasury, and of ministers of public works, of finances, of agriculture, of industry and of commerce, as well as of the War and Navy. If the decision of said commission is favorable, the examination of the application in the regular manner immediately follows. If the decision is unfavorable, the minister of public works shall, after consultation with the higher council and the council of state, render a decree deciding whether the examination of the application shall proceed. By means of such a decree the minister can, if necessary, ultimately prevent all concessions to individuals in a certain river basin, section, or lake over which he has control.

If in the interest of a public service the nation finds it desirable to utilize or to reserve in any manner water powers of another class, the competent administration or a deputy named for that special purpose shall present a preliminary plan containing a technical exposition of the purposes, nature, object, and utility of the work to be established or of the reservation. This plan shall be submitted by the minister to the permanent special commission aforesaid, and in accordance with its advice and that of the higher board of public works, after consultation with the council of state, he shall decide by special decree the appropriation or reservation of the power privileges demanded for the public service. In case of a favorable decree all individual demands that can not technically coexist, along with the project of the reservation of the Government, shall be denied irrespective of the state of advancement of construction.

The decree of the minister of public works are unassailable, the only recourse against them being that provided by articles 12, 14, and 24 of the law for the council of state.

There is a provision against monopoly and speculation which reads as follows:

"The concessionaire of a public diversion can be authorized by the decree of investiture to form either a syndicate or a civil or commercial company for the exploitation of his concession, provided he remains connected with it up to the time of the organization of the company and provided the organization is affected within a period of six months from the date at which the decree of investiture went into effect. It is forbidden under penalty of forfeiture to transfer to a third party a concession for the diversion of public waters in any other manner before such concession shall have been entirely utilized."

The section with regard to renewal of concessions reads as follows:

"Concessions are granted for a period not exceeding 30 years, but at the expiration of that period the concessionaire has the right to a renewal of the concession for a second period of 30 years, with such modifications as must be made in the conditions of the concession by reason of changes in the premises or regimen of the stream. The renewal of the concession can be refused if, in the opinion of the administration, the concessionaire during the preceding 30 years, either through usage or abuse, has not fulfilled the objects of the concession. Renewals after the expiration of the second 30-year period are optional with the nation."

Article 1 of this law contains the following conditions regarding municipal concessions:

"Municipalities may reconvey to third parties the exploitation of waters vested in them for the benefit of public service, such as electric lighting, railway traction, and for domestic or hygienic purposes, provided they follow a

simple system of reimbursement of expenses of exploitation over and above the interest and authorization of capital used to the total exclusion of all speculation."

In order to acquire prompt and orderly development a portion of article 4 of this law reads:

"Whenever it shall occur that any concessionaire can not employ immediately all of the water or all of the power conceded to him, the conceding authority can consent to a progressive development, subject to the uniform payment of an equitable rent. The different periods of progressive utilization shall be fixed in the decree of the concession, as well as the quantity of water or power that may be utilized in each period and the corresponding rental. Decrees which do not contain such limitations are rendered void and must be renewed."

Decrees of concession shall define, in conformity with the regulations adopted, the periods within which the concessionaire must fulfill the various conditions of his concession, whether fixed or gradual, up to the complete utilization of the water to be diverted. If these periods are exceeded without sufficient cause, the administration has the privilege of declaring the concession forfeited or of restricting the quantity of water or of power actually utilized.

These periods can not be extended except for the enlargement of capacity of the development, without a renewal of the application and the issue of new instructions.

Rentals are fixed by the administration based on the horsepower charge, and in addition a principle of reduction for rates on account of long-distance transmission is provided for in the law.

NOTE.—Letter from American consul at Rome, December, 1912, giving information in substance contained above.

CONCENTRATION IN OWNERSHIP OF PUBLIC UTILITIES.

[By Harry A. Slattery, secretary National Conservation Association.]

The concentration in ownership and control of public utilities is rapidly growing to serious proportions in this country, and within the last few years it has made particularly significant progress.

Concentration of public utilities has come about through two methods: First, through the development of hydroelectric power; and secondly, through the natural economic tendency of water-power companies and public-service corporations to consolidate. Because of cheap electrical power the water-power company is frequently able to control the local power market. The absorption of the public utility by the power company or the merger of the two interests is the inevitable result. Affiliation between the generating and producing agencies has grown stronger and stronger, until at present we find the street railway, electric light, and gas plants in hundreds of cities and towns owned or controlled by the same interests. The close relationship between great water power and public utility interests, operating on a national scale, is of even more significance. In many cases a large holding company either directly or indirectly controls the subsidiary utility companies; but in most cases the control is through interlocking directorates or stock ownership.

The consolidation of water, heat, light, power, and transportation services in our municipalities is an important and at the same time a natural economic step in electrical development. Water-power development is the necessary forerunner of the increased use of electricity. Public-utility development is in turn the next large factor in securing a necessary market for the hydroelectric power generated. It is of course true in many instances that electricity generated from steam power is the source of power. But in view of the accepted fact that power can be generated cheaper by water power than by steam, it is evident that electrical development by hydroelectric power is of the first importance.

In view of the fact that water power is a natural monopoly, there must follow logically the conclusion that control of the power site means control of the power, control of the public utility, and control of service to the ultimate consumer. It is therefore obvious that the dangers of concentration in ownership of public utilities, because of present inadequate public control, menace the welfare of the millions of people of this country in whose lives electricity has become a daily factor.

POWER CONTROL LEADS TO MONOPOLY OF UTILITIES.

The control of power carries with it the control of industry and transportation. This is especially true of power developed from falling water because of natural conditions. There can be use of a power site only by one individual, which makes it essentially a monopoly. In 1907 the Inland Waterway Commission sounded this warning as to the control of our water powers:

"Wherever water is now or will hereafter become the chief source of power, the monopolization of electricity produced from running streams involves monopoly of power for the transmission of freight and passengers, for manufacturing and for supplying light, heat, and other domestic, agricultural, and municipal necessities to such an extent that unless regulated in advance it will entail monopolistic control of the daily life of our people in an unprecedented degree."

In view of the fact that 10 groups of power interests control 65 per cent of all the developed commercial water power in this country, it is clear that but little attention has been paid to this warning. It is evident the close connection between large power interests and the agencies that directly serve the public with light, heat, power, and transportation is of serious public significance. For instance, one great power interest alone owns the street railways in 16, gas plants in 19, and electric-light plants in 78 cities and towns, while companies clearly under the domination and control of the great power interests own street railways in 111, electric plants in 660, and gas plants in 113 cities and towns throughout this country. Six water-power interests own street railways in 29, electric-lighting plants in 204, and gas plants in 55 cities—among which are some of the most important cities in the country. The population served by subsidiary companies of these six water-power interests runs into the millions.

The control by water-power corporations of public utilities has become quite widespread in certain States. A few instances of ownership or control of public utilities in a State by water-power corporations are:

California, 8 street railways, 151 electric-light plants, and 37 gas plants; Connecticut, 16 street railways and 32 electric-light plants; Maine, 16 street railways and 36 electric-light plants; Michigan, 50 electric-light plants and 5 street railways; New York, 71 electric-light and 20 gas plants; Oregon, 29 electric-light plants; Washington, 24 electric-light plants; and Vermont, 25 electric-light plants.

It will be noted that these are the States with the greatest progress in electrical development. Thus concentration keeps step with the march of electricity.

CONCENTRATION BY GREAT POWER INTERESTS.

The influence of the General Electric interests in public-service corporations extends into every section of the country. Some of the important communities served by subsidiary power companies of this interest are: Portland, Spokane, St. Louis, Milwaukee, Racine, Elmira, Asheville, Raleigh, and Buffalo. The influence and control or this interest, however, is by no means limited to its subsidiary water-power companies. It owns or controls public-service utilities operated by steam power in numerous cities and towns. Of course, one of the great factors in advancing the control of this great interest is the fact that it furnishes a large part of the equipment both of the power companies and the utilities. A mortgage control of the concern has been the instrument of ultimate control in many cases.

The tendency of large interests to acquire control of public utilities is shown by the fact that many of the largest public-service corporations are subject to their control. This is particularly true of the General Electric interests. A few examples will make this plain. The American Gas & Electric Co., which is one of the largest utilities, is controlled by the General Electric through stock ownership. This corporation controls public utilities in Atlantic City, Canton, Scranton, Muncie, Wheeling, Marion, and Licking, Ind., and Shawnee, Ohio, and serves a population of 669,400 people. The Carolina Power & Light Co., whose majority stock is owned by the General Electric, operates public utilities in Raleigh, Sanford, Henderson, Oxford, Goldsboro, Smithfield, Pine Level, Jonesboro, and Asheville, N. C. It may be of interest in passing to say that of the franchises secured two extend until 1942, six until 1971, and three are perpetual.

The Stone & Webster interests also own or control, largely through water power, many public utilities in various sections of the country. This corporation owns or controls 52 companies, which in turn operate street railways, electric-light, gas, and power plants. These companies are located in various States, and among the larger communities served are Portland, Spokane, Bellingham, Everett, Tacoma, Savannah, Pawtucket, Brockton, Paducah, Houston, Galveston, El Paso, Dallas, Columbus, Baton Rouge, and Pensacola. This interest in a recent prospectus gives the following data regarding its activities:

"Operates 1,225 miles of electric railways; carried in 1912, 318,203,300 passengers; total connected electric lighting load (equivalent to 16 c. p. lamp), 2,136,960; total commercial power load, 137,400 horsepower; total gas output (1,000 cubic feet), 1,306,949; capitalization, $92,636,500; net earnings (1912), $10,085,997."

A conservative estimate of the population of the territory served by the utilities of this interest is: Gas, 587,150; electric light and power, 1,425,500; street railway, 1,300,500; combined utilities, 672,500; total, 3,398,650.

One of the main instruments through which these two great power interests control utilities is ownership of water power. It is estimated that the General Electric interests own or control 1,164,097 developed horsepower, and the Stone & Websters 319,200 developed horsepower.

POWER INTERESTS CONTROL UTILITIES.

It is an exception to the rule to find power companies that do not own or control a large per cent of the public utilities operating in the territory in which they have a monopoly. The large power mergers in the West and South, directly or indirectly, influence every utility in their field. This is largely due to the great area over which power can now be transmitted, as well as to the economic advantage of "tying in" water powers to utilities.

A brief summary of the most important instances of the relations of water-power corporations to public-service corporations will show the dangers of unregulated control of such a monopoly. The Pacific Gas & Electric Co. of California has in five years absorbed about 20 local public utilities. Here is what this great corporation has to say of its own activities:

"Our operations extend into 30 counties of central California, containing about 66 per cent of the population of the entire State. Over 200 communities are served in this territory, including 8 of the 11 largest cities in the State, furnishing electricity to some 209 towns with a total population of approximately 980,000, among which are San Francisco, Oakland, Sacramento, Berkeley, Stockton, and others; also the entire street railway system of Sacramento."

It is hard to dispute the fact that this corporation has largely monopolized the utility and water-power situation in the territory it serves; but if there is any doubt of monopolization by this corporation, it is removed by its own published statement, as follows:

"By the control, on the one hand, of the best and most economical water powers and, on the other hand, of the markets for power through the ownership of the distributing companies in the principal cities and long-term contracts with users of power, the business of the company is beyond reach of serious competition."

There can be no gainsaying the statement that this corporation is "beyond the reach of serious competition," when we learn that it controls 184,327 developed horsepower and 160,000 undeveloped horsepower—all water power. How successfully it has controlled, "on the other hand, the markets for power" is indicated in the claim that in 1912, 321,092 consumers of gas, electricity, irrigation, and water were on its books and its street railways carried 11,926,098 passengers. The reserve amount of undeveloped water power is sufficient to supply the entire central California market for many years to come.

The Commonwealth Power, Railway & Light Co. of Michigan is another example of monopolistic ownership of public utilities by a power corporation. Through subsidiary companies this corporation owns and operates interurban lines interlacing the central part of Michigan, street railways in Grand Rapids, Saginaw, and Bay City and gas properties in Jackson, Kalmazoo, Grand Rapids, Flint, Saginaw, Bay City, Cadillac, Pontiac, Battle Creek, Lansing, and intermediate cities and towns. This company also sells a large amount of power to manufacturing concerns. It serves a population of over 200,000 in the Battle Creek district alone. The Bureau of Corporations, in its 1912 report, said

regarding water power in the State of Michigan: "This company has practically no rival in this State." There is a reason why—for it controls approximately 70 per cent of the developed commercial power.

The Southern Power Co., which operates in the Carolinas one of the greatest electrical systems in the world, is another striking example of the control and monopolization of public utilities and water powers. The territory served by this corporation embraces the Piedmont section of these two States. It owns public utilities in Greensboro, Winston-Salem, Charlotte, Rock Hill, Chester, Greenville, Spartanburg, Anderson, Greenwood, and Durham, and will operate at an early date over 100 miles of interurban trolley lines. A significant fact about this corporation is the amount of power it sells to mills for manufacturing purposes solely. Power is being supplied to over 160 cotton mills, which operate approximately 2,373,000 spindles. In addition, a population of approximately 300,000 is being served with light, heat, power, and transportation. Owning over 100,000 developed and 100,000 undeveloped horsepower, which is a monopoly of the water powers in that section, this great corporation has a significant hold on the commercial and domestic life of one of the richest sections of the South.

Turning from the South to the North, we find the Cumberland County Power & Light Co. of Maine, controlling in central Maine public utilities in Portland, Bangor, Lewiston, Augusta, and vicinity. This corporation operates interurban lines extending from Bath to Brunswick, Lisbon, Lewiston, Winthrop, Yarmouth, and Auburn, and from Lewiston to Gardiner, Hallowell, Augusta, and Waterville. It also controls the entire street railway, electric light, and power business in Portland and vicinity and serves a population of about 250,000. It is perhaps needless to say that it controls the water-power situation.

The concentration and control given in these few examples is found in a like manner all over the country. In the West, concentration has been especially rapid, largely due to the fact that this is the great source of power—the per capita consumption of electricity being more than five times greater than the average for the other portion of the nation. Only recently the organization of the Montana Power Co. and the Utah Security Corporation has consolidated a large portion of the public utilities, formerly local concerns in Utah, Idaho, Montana, and Colorado. In Oregon and Washington the Puget Sound Traction Light Co. and the Washington Water Power Co. are to-day in possession of practically all the public utilities in the wide territory they serve. The Alabama Traction Light & Power Co., the Tennessee Power Co., and the Mississippi River Power Co. are rapidly acquiring local utilities in the territories they serve. In Virginia, the Virginia Railway & Power Co. is operating 270 miles of electric railway, serving Richmond and Norfolk and immediate towns with light and power, while in the Appalachian section of the State the Virginia Power Co. is extending its operations. The power companies at Niagara Falls are extending their transmission systems both in the west and south sections of New York. In New England the Connecticut Power Co. and New England Power Co. are rapidly acquiring public utilities in the territories they reach in their respective territories.

The concentration of utilities, controlled largely by water power, has had one handicap, viz, the limitations on the transmission of electricity. Great success has attended the high tension system, however, and we may expect the perfection of the system whereby electricity can be transmitted without being restricted to a few hundred miles as at present. Even to-day in many sections of the country one transmission system will interlace several States. This makes it clear that eventually State control will no more meet the situation than did the ineffectual effort to regulate and control our railroad systems by individual States.

CONSOLIDATION OF PUBLIC-SERVICE CORPORATIONS.

In most instances water power is the means through which public-service corporations in a locality are combined. The forming of holding companies for the merger and control of public utilities solely is now becoming a frequent method by which the financial interests launch development in electrical properties. An investigation of the organization and ramification of these large holding companies shows clearly the danger to the public welfare involved.

Is there danger of a widespread effort to control utilities? Let us look at a few instances of recent consolidation. The American Cities Co. was recently organized, and up to the present has taken over the New Orleans Railway &

Light Co., Birmingham Railway Light & Power Co., Knoxville Railway Light & Power Co., Houston Lighting & Power Co., Little Rock Railway & Electric Co., Memphis Street Railway Co., and other utilities. It will be noted that these are among the largest cities of the South. The holding company has this to say of its chosen field of operation:

"The cities in which the constituent companies operate are, in a strategic sense, as favorably located as any cities in the United States. They are financial and commercial centers of sections unsurpassed by any in the South in resources and present development and what they have accomplished during the last 10 years in the increase of trade and population will, in all probability, be far surpassed during the next 10 years. The combined population at the present date of these cities is 920,000."

The New Orleans Railway Light Co., according to a prospectus of the parent company, "operates and controls the entire street railway business and also the entire electric light and power business of the city and vicinity, with the exception of that furnished by one smaller electric company." With perpetual franchises, it is modestly admitted that "we are most strongly and wisely situated in this great seaport." This same prospectus states the Birmingham Railway Light & Power Co. "owns and operates the entire street railway, gas, electric light, and power and steam-heat business of all the municipalities recently incorporated into the city of Birmingham"; the Houston Light & Power Co. "owns and operates the entire municipal and commercial lighting and power business in the city of Houston"; and the Knoxville Railway & Light Co. "owns and operates all the street railway and electric light and power business in Knoxville and serves outlying incorporated cities." We are further informed that the Little Rock Railway & Electric Co. "owns and operates all the street railway, electric light and power business in the city of Little Rock and the electric light and power business in a portion of Pulaski Heights, Ark.," while the Memphis Street Railway Co. "owns and operates the entire street railway system in the city of Memphis, with suburban sections." It is also significant that most of the franchises are either perpetual or for very long periods.

The Eastern Power & Light Corporation is another holding company which well illustrates the recent movement to consolidate public-service corporations. It was born in Virginia, May, 1913, "for the purpose of acquiring, improving, and developing electric light, power, and gas properties, street and interurban railways, water and other companies of a similar public character." This corporation now owns properties in Vermont, New Hampshire, Pennsylvania, West Virginia, Indiana, and New Jersey. Among some of the cities and towns served by this corporation that of Reading is of special significance. This company owns the Reading Transit & Light Co., which operates all the electric lighting and power business in Reading and Lebanon (serving a population of about 200,000), and also the electric street and urban railways in four counties of southern Pennsylvania, namely, Lebanon, Berks, Montgomery, and a portion of Philadelphia. This local company operates under a 900-year lease.

The Middle West Utilities Co., organized in 1913, "to acquire public-utility properties, particularly in the smaller cities and towns," has already acquired properties serving 274 communities, with a total population of 829,500. Most of the communities served are small ones, of which 192 are in Illinois, 29 in Indiana, 13 in Kentucky, 6 in Oklahoma, 2 in Missouri, and 26 in the New England States. This company is particularly active in Illinois and Indiana in consolidating utilities. It has made this frank statement regarding its Illinois operations:

"The Central Illinois Public Service Co., a subsidiary, was the first company to take over the utilities in 87 communities in central, southern, and western Illinois; formerly 49 separate generating plants supplied the territory. These plants are now from time to time being shut down, and the whole territory will within a very short time be served by the transmission lines of the company, from not to exceed eight plants, and ultimately the number will be reduced in all probability to four or five."

The North American Co. is another striking example of a holding company which owns and controls utilities without regard to State or section. Among some of the companies controlled are: The Detroit Edison Co., which does the entire electrical lighting and industrial power business of Detroit; The St. Louis Gas Co., which does the entire business of St. Louis County, serving 26 cities and towns; the Union Electric Light Co., which does a greater part of the electric light and power business in the city of St. Louis; the United Railways

of St. Louis, which operates nearly 100 miles of street railways in St. Louis; Wisconsin Edison Co., which does the entire electric light and power business of Burlington, Wis., controls practically all of the street railway lines in Milwaukee, as well as the electric lighting and power service; the Milwaukee Light & Traction Co., which operates 226 miles of suburban trolley lines; and the Wisconsin Gas Electric Co., which serves Racine and Kenosha and intermediate territory.

There are many other holding companies of a similar character, but two more examples will suffice. The United Gas & Electric Corporation, recently organized through its subsidiary companies, owns public utilities in Hartford, Elmira, Lockport, Altoona, Wilkes-Barre, Bloomington, Richmond, and Terre Haute, Ind.; Leavenworth; and Colorado Springs. Utilities are also controlled in Lancaster, Harrisburg, New Orleans, Buffalo, and Houston. Of the 17 subsidiary properties owned, 12 of the most important operate under perpetual franchises, and the balance under long-period franchises "having no burdensome restrictions." The communities served have an aggregate population of 1,800,000.

The United Gas Improvement Co., which was originally a local Philadelphia company, now owns or controls utilities in Allentown, Reading, Norristown, Steelton, Harrisburg, Kansas City, Waterbury, Vicksburg, Sioux Falls, Syracuse, Savannah, St. Augustine, Manchester, Omaha, Paterson, Passaic, Nashville, Minneapolis, Jersey City, Atlanta, Des Moines, New Haven, Concord, Charleston, Burlington, Pensacola, and many smaller cities and towns.

THE MENACE OF A POWER-UTILITY MONOPOLY.

A group of men controlling our electric power and utilities in the years to come will control transportation and industry to a remarkable degree and hold within their grasp the commercial destiny of the Nation. It is clear that our civilized life is built upon raw materials, upon energy to convert materials into finished products, and upon transportation. Electricity will in the near future be a chief factor both in manufacture and in transportation. The control of electricity will therefore mean the control of our civilization. If there is a danger of the control of electric energy and its direct agencies, utilities, by interlaced interests, such a danger is of vital importance to every citizen. Electricity is rapidly entering into the daily life of our people. It is fast becoming a necessity in domestic as well as commercial life. The concentration in ownership and control of our water powers and utilities by great interests is therefore a serious and immediate national question. The time to face it is now.

EXHIBIT K.

[National Conservation Association. Gifford Pinchot, President, Washington, D. C.]

WATER POWER—OUTLINES OF PUBLIC POLICY.

(By Philip P. Wells, counsel.)

I. Water power development should be:

1. Prompt. Power sites should be developed, not held unused for speculative purposes.

2. Complete. Cheap and partial development for large and quick profits should not take place so as to prevent full development for moderate profits. The rich cream should not be skimmed and the milk thrown away.

3. Orderly. Every stream is a unit from source to mouth. It should be applied to human needs (potation, navigation, irrigation, power, etc.) in such order of preference or in such combination as will be of greatest public benefit.

4. All the above standards should be reasonable, in view of economic conditions and business possibilities.

II. Private enterprise is not self-sufficient to assure to the public such development as is outlined above. Public aid is needed in one or more of the following ways:

1. Corporate franchises. Especially the perpetual succession and limited liability incident to the modern corporation.

2. Authority to use private lands without the owner's consent, if consent is refused. (Eminent domain.)

3. The same as to private water rights.

4. Authority to use publicly owned lands.

5. The same as to water rights in public ownership.

6. Authority to obstruct navigable rivers.

7. Authority to assess the cost of water storage upon the lands specially benefited thereby. All power sites below the reservoir are so benefited.

8. Public construction, ownership and operation of storage reservoirs with like assessment of the special benefits. (This is the New York plan.)

9. The public construction, ownership and operation of transmission lines. (The Ontario Power Commission plan.)

III. In seeking such public aid the water companies may rightfully demand:

1. Certainty of tenure. Leases and franchises should be irrevocable, except for a breach of condition, for a fixed term of years.

2. Reasonable certainty as to the burdens (rentals, etc.) assumed by the company. (Some men of experience in hydroelectric development say it is entirely practicable to have rental value readjusted by agreement every 10 years and in default of agreement by arbitration. Such conditions are, they say, common in leases of privately owned real estate.)

3. Adjudication of differences by an impartial tribunal. The courts should pass upon forfeitures and other penalties for breach of the conditions of the franchise, privilege, or lease.

4. A fair chance for a generous profit on the investment. This will encourage development.

5. To these should be added: Fair compensation for permanent works taken from the company at the expiration of its franchise, lease, or privilege.

IV. As its part of the bargain the public may rightfully demand, in addition to prompt, complete, and orderly development:

1. Efficient service.

2. Equal service to all like consumers without discrimination.

3. Fair prices to consumers.

4. A reasonable time limit for leases, franchises, and privileges.

5. Accurate information as to costs and profits.

6. Honest capitalization on the basis of cost.

7. Fair rentals for public property used. Rentals will not increase the cost to consumers because: (a) The share of rental chargeable against each consumer would be too infinitesimal to affect him individually; (b) prices to consumers are, in the absence of public regulation, roughly fixed by the competition of steam plants, actual or potential.

8. Continuous operation of the plant. There should be no artificial limitation of output to raise prices or restrict service. Good business policy might secure this result without regulation by the public.

9. A veto power on all assignments of privileges. Such assignments and the combination of separate enterprises by tying together several different power developments to serve a single territory are often advantageous to the public. They will sometimes present new problems and require new conditions for the protection of the public interest.

The standards of fair profit, efficient service, fair rentals, etc., to be applied within III and IV (above) will vary according to the engineering and economic conditions (including the risk) in each case.

V. What are the respective spheres of the State and Federal Governments in securing for the public such development and such other advantages as are above set forth? The Federal Government can not act at all except in cases over which jurisdiction is granted to it by the Constitution. It has such jurisdiction over power sites owned by it as part of the public domain, national forests, national parks, and other reservations. It has some jurisdiction over the damming of navigable streams and the creation of storage reservoirs at their headwaters. The exact limits of its powers as to navigable streams are disputed as a matter of law. But the Federal jurisdiction, whatever it may be, should be exercised in every case falling within it for the attainments of some at least of the public objects above set forth. The practice of our Government, the habits of our people, and other considerations of public policy make the State governments better instruments for obtaining others of those public objects, even in cases where the Federal jurisdiction is unquestioned. Without attempting to mark the respective limits of Federal and State activity in this behalf, it is here suggested by way of example that the United States in leasing a power

site on the public domain might properly require prompt and full development, fix a reasonable time limit for the privilege, require accurate information as to costs and profits, fair rentals for the public land used (what part of these should be paid by the Nation to the State is another question) and the continuous operation of the plant (if this needs to be required at all) also retain a veto power on assignments of the lease. All information gathered by the Federal Government should be available to the State government, which might, through its public-service commission or otherwise, require efficient service, equality of service, and fair prices to consumers. The orderly development of the stream and the checking of overcapitalization might require action by both governments, preferably in cooperation. Violation of the States' requirements should afford ground for the cancellation of the Federal lease.

Power developments which are not on lands owned by the United States and do not affect navigation are wholly in State jurisdiction, and as to them the State government should secure all the public objects set forth above. They should also favor development (not speculation) and reasonable public control by good water laws and by public storage reservoirs constructed by the State at the expense of power site owners on the streams below, as proposed by the New York State water supply commission. There are very great opportunities here for conservation work by the States.

EXHIBIT L.

Partial list of water-power developments which have been either through receivership or proved bad investments.

	Horsepower.
Hudson River, Spice Falls, N. Y., Mechanicsville, N. Y	52,000
Michigan Lake Superior Power Co., Sault Ste Marie, Mich	23,000
Great Shoshone & Twin Falls Water Power Co., Pocatello, Idaho	10,000
Animas Power & Lighting Co., Durango, Colo	4,500
Central Colorado Power Co., Denver, Colo	40,000
Wisconsin Railway, Lighting & Power Co., Hatfield, Wis	8,000
McCall Ferry Power Co., McCall Ferry, Pa	80,000
Hanford Irrigation & Power Co., Priest Rapids, Wash	4,000
Yadkin River Power Co., Rockingham, N. C	25,000
Hauser Lake (Mont.) Power Co	15,000
Chattanooga & Tennessee River Power Co., Chattanooga, Tenn	40,000
St. Lawrence River Power Co., Massena, N. Y	60,000
Austin Dam, Tex	25,000
Stanislaus Electric Power Co., San Francisco	50,000
Whitney plant, on Yadkin River	20,000
Miscellaneous small water powers	50,000
	506,500

List of financial interests declining the Keokuk and Hamilton water-power investment previous to its financing.

National City Bank, New York; F. A. Vanderlip.
North American Co.; C. W. Wetmore.
J. P. Morgan & Co.; J. P. Morgan.
Spencer, Trask & Co.; Mr. Bulkley.
Hallgarten & Co.; H. H. Wehrhane.
Kuhn, Loeb & Co.; Otton Kahn.
Speyer & Co.; Mr. Schuster.
American Tobacco Co.; James B. Duke.
Standard Oil Co.; E. C. Bedford.
Harvey Fisk & Sons; Pliny Fisk.
Amalgamated Copper Co.; John D. Ryan.
Guggenheims; Mr. Lipman.
Edwin Hawley, New York.
Brown Bros., New York; Mr. Delano.
Mississippi Valley Trust Co., St. Louis; Breckenridge Jones.
Merchants Loan & Trust Co., St. Louis; Festus J. Wade.
Third National Bank, St. Louis; Charles Huttig.

First National Bank, Chicago; E. K. Boiset.
N. W. Harris & Co., New York, Chicago, and Boston; Mr. Harris.
John I. Beggs, Milwaukee.
Drexel & Co., Philadelphia; E. C. Stotesbury.
Kuhn Bros., Pittsburgh; W. S. Kuhn.
Brown, Shipley & Co., London; Mr. Jones.
Baring Bros., London.
Rothchilds, London; Lord Rothchild.
A. B. Leach & Co.; A. B. Leach.
Jas. B. Colgate & Co.; J. B. Colgate.
F. S. Smithers & Co.; F. S. Smithers.
Wm. R. Sheldon & Co.; George R. Sheldon.
James Ross, Montreal.
Tucker, Anthony & Co.; Messrs. Tucker and Anthony.
Wm. B. Bonbright & Co.; William P. Bonbright.
Braithwaite & Co., London; Mr. Braithwaite.
Kountze Bros.; Luther Kountze.
Wm. Soloman & Co.; William Soloman.
Commonwealth Edison Co., Chicago; Samuel Insull.
E. H. Rollins & Son, Boston; all members of firm.
F. S. Pearson, New York and England.
Lee, Higginson & Co.; Mr. Higginson.
E. D. Smith & Co., New York; Mr. Smith.
White, Weide & Co., New York; Mr. White.
Equitable Life Insurance Co.; Alvin W. Krech.
E. N. Dickerson, New York.
Morgan, Harjes & Co., Paris; Mr. Harjes, sr.
William Mackenzie, Toronto.
Bank of Montreal; E. S. Clouston.
William Nelson Cromwell, New York.
T. P. Shonts, New York.
French Thompson-Houston Co.; Mr. Garfield.
General Electric Co.; C. A. Coffin, president.
Westinghouse Electric Co.; John F. Wallace.
Sir Ernest Castle, Edinburgh, Scotland.
Robert Fleming, 2 Princess Street, London, England.
Strong, Sturgis & Co., New York.
E. D. Adams, New York City.
J. G. White & Co., New York.

EXHIBIT M.

[Senate Document No. 147, Sixty-third Congress, first session.]

DEVELOPMENT OF WATER POWER.

[Permit granting the International Power and Manufacturing Co., of Spokane, Wash., the right to construct, operate, and maintain a dam across Clark Fork or Pend d'Oreille River for the development of water power, electrical power, and other purposes.]

FINAL PERMIT INVOLVING POWER.

[Act of Feb. 15, 1901 (31 Stat., 790). Regulations of Mar. 1, 1913.]

DEPARTMENT OF THE INTERIOR,
Washington.

Applicant: International Power & Manufacturing Co., Spokane, Wash.

Principal works: Dam and power plant.

Location: Ts. 39 and 40 N., R. 43 E., Willamette meridian, Washington, on Clark Fork or Pend d'Oreille River.

Purpose of occupation and use of public lands: Construction, operation, and maintenance of works for the generation, distribution, and use of electrical power.

Date of initiation of priority: July 22, 1913.

Date of initiation of valid rights as against other claimants: July 22, 1913.

AGREEMENT.

The International Power & Manufacturing Co., hereinafter called the permittee, a corporation organized and existing under and by virtue of the laws of the State of Washington, the office and principal place of business of said permittee being at Spokane, Wash., being the successor in interest of the Pend d'Oreille Development Co., a corporation organized under the laws of the State of Washington and authorized by act of Congress approved February 25, 1907 (34 Stat., 931), extended by act of Congress, May 20, 1912 (37 Stat. 115), to construct a dam across Clark Fork or Pend d'Oreille River, in the State of Washington, for the development of water power, electrical power, and for other purposes, which said dam was to be constructed, maintained, and operated in accordance with and subject to the provisions of the act of Congress approved June 23, 1910 (36 Stat., 593), entitled "An act to amend an act entitled 'An act to regulate the construction of dams across navigable waters,'" approved June 21, 1906; and the said permittee in accordance with the provisions of the said act of Congress approved June 23, 1910, has submitted, under date of June 8, 1912, to the Secretary of War and the Chief of Engineers of the United States Army, plans and specifications and maps showing the location of such dam and necessary works, and the said permittee having heretofore filed in the Department of the Interior an application, designated as Spokane .08319, and including the following-described map of location: Map of location of reservoir site and power plant, marked Exhibit J1, bearing affidavit of M. H. Gerry, jr., engineer, and certificate of International Power & Manufacturing Co., by Wilbur S. Yearsley, vice president, under corporate seal of said company, filed in the General Land Office, Washington, D. C., on July 22, 1913; and said permittee having filed an application in the Department of Agriculture, including a duplicate of said map of location, said applications filed in the Department of the Interior and the Department of Agriculture, hereinafter called the final application, having been made for the purpose of obtaining permission to occupy and use certain lands under the jurisdiction of the said departments for the purposes of the act of Congress approved February 15, 1901 (31 Stat., 790), for the construction, operation, and maintenance of certain works, said lands and works being more particularly described in and located and shown by the final application, does hereby amend said final application to include this agreement, and furthermore does hereby covenant and agree, in consideration of and as a prerequisite to the giving of the permission applied for in the final application as thus amended, such permission being hereinafter called the permit, that the conditions of the permit, each and every one of which shall at all times be binding on the permittee, are as follows:

SECTION 1. The following terms, wherever used in this agreement, shall have the respective meanings in this section assigned to them:

(*a*) "Interior Department lands" means lands under the jurisdiction of the Department of the Interior for the purposes of the act of Congress approved February 15, 1901 (31 Stat., 790), and "national forest lands" means lands under the jurisdiction of the Forest Service of the Department of Agriculture for said purposes.

(*b*) "Secretaries" means the Secretary of the Interior and the Secretary of Agriculture.

(*c*) "Power business" means the entire business of the applicant or permittee in the generation, distribution, and delivery of power by means of any one power system, together with all works and tangible property involved therein, including freeholds and leaseholds in real property.

(*d*) "Power system" means all interconnected plants and works for the generation, distribution, and delivery of power.

(*e*) "Power project" means a complete unit of power development, consisting of a power house, conduit or conduits conducting water thereto, all storage or diverting of fore-bay reservoirs used in connection therewith, the transmission line delivering power therefrom, any other miscellaneous structures used in connection with said unit or any part thereof, and all lands the occupancy and use of which are necessary or appropriate in the development of power in said unit.

(*f*) "Project works" means the physical structures of a power project.

(*g*) "Construction of the project works" means the actual construction of dams, water conduits, power houses, transmission lines, or some permanent structure necessary to the operation of the complete power project and does not include surveys or the building of roads and trails, or the clearing of

reservoir sites or other lands to be occupied, or the performance of any work preliminary to the actual construction of the permanent project works.

(*h*) "Customer" means the purchaser of electric current for redistribution and sale.

(*i*) "Consumer" means the user of current at the point of its final conversion into light, heat, or power.

(*j*) "Nominal stream flow" means the sum of (*a*) the average of the values estimated for the mean natural flow for the two-month (calendar) minimum-flow period in each successive five-year cycle or major fraction thereof, and (*b*) the increase in such average due to artificial means other than the project works.

(*k*) "Project storage flow" means the estimated increase in nominal stream flow made practicable by the project works.

(*l*) "Available stream flow" means the sum of nominal stream flow and project storage flow.

(*m*) "Load factor" means the ratio of average power output to maximum power output.

(*n*) "Total capacity of the power site" means the power estimated to be available for transmission, and is determined as the continued product of (1) the factor 0.08; (2) the average effective head, in feet; (3) the available stream flow at the intake (in second-feet and in amount not to exceed the maximum hydraulic capacity of the project works); and (4) a factor, not less than the average load factor of the power system, representing the degree of practicable utilization of the available stream flow, and based on the extent of practicable fore bay storage and the load factor of the power system.

SEC. 2. The permit shall be subject to and the permittee shall be governed by the provisions of the act of Congress approved February 15, 1901 (31 Stat., 790), and to the regulations thereunder fixed by the Secretaries.

SEC. 3. The permit shall relate solely to the occupancy and use of the Interior Department lands and national forest lands necessary for the construction, operation, and maintenance of such works contemplated by the act of Congress approved February 15, 1901 (31 Stat., 790), as are described in the final application, to the extent of the ground occupied by such works and not to exceed 50 feet on each side of the marginal limits of works other than pipe lines and electrical transmission lines and not to exceed 50 feet on each side of the center of each pipe line or electrical transmission line, in conformity with the location of such works on said lands as shown by the maps of location hereinbefore described.

SEC. 4. The permittee shall construct the project works on the location shown upon and in accordance with said maps and plans submitted with the final application, and shall make no material deviation from said location unless and until maps and plans showing such devition shall have been submitted and approved by the Secretaries.

SEC. 5. Any approval of any alteration or amendment, or of any map or plan, or of any extension of time, shall affect only the portions specifically covered by such approval; and no approval of any such alteration, amendment, or extension shall operate to alter or amend, or in any way whatsoever be a waiver of any other part, condition, or provision of the permit.

SEC. 6. The permittee shall begin the construction of the project works and of the several parts thereof and shall thereafter diligently and continuously prosecute such construction to completion unless temporarily interrupted by climatic conditions or by some special or peculiar cause beyond the control of the permittee, within the respective periods, dating from the issuance of the permit, specified for such beginning and for such completion in the following schedule:

1. Project works as a whole, excepting installation of hydraulic and electric machinery shall be begun within one year and completed within three years.

2. Installation of hydraulic and electric machinery: Machinery of 50,000 horsepower rated capacity shall be installed within three years; and additional machinery shall be installed as the conditions of the market will warrant or as the secretaries or any duly authorized State agency may direct.

SEC. 7. The permittee shall, after their completion, operate the project works continuously for the development and transmission of electric energy for sale or other disposal, unless upon a full and satisfactory showing that such operation is prevented by unavoidable accidents or contingencies, this requirement is temporarily waived by the written consent of the Secretaries.

SEC. 8. No compensation for the permission given will be required prior to the year 1923; but on or before the first day February in each year, beginning

with 1924, the permittee shall pay, by certified check to the order of the Secretary of the Interior, or in such other manner as the Secretaries may direct, an amount calculated from the total capacity of the power site at rates per horsepower per year varying directly as the square of the average price for electric energy charged to customers and consumers of the permittee as determined in subsection (*c*) hereof and varying inversely as the square of the proportional development of the power site, as shown by the following table:

When the average price in cents per kilowatt hour charged by the permittee is as shown by this column.	If the percentage of development of power site is—						
	Over 90.	90 and over 80.	80 and over 70.	70 and over 60.	60 and over 50.	50 and over 40.	40 or less.
	Then the rates of compensation to the United States per horsepower per year will be as shown below.						
0.2 and less	$0.05	$0.06	$0.08	$0.10	$0.14	$0.20	$0.31
0.3 and over 0.2	.11	.14	.18	.23	.31	.45	.70
0.4 and over 0.3	.20	.25	.31	.41	.56	.80	1.25
0.5 and over 0.4	.31	.39	.49	.64	.87	1.25	1.95
0.6 and over 0.5	.45	.56	.70	.92	1.25	1.80	2.81
0.7 and over 0.6	.61	.76	.96	1.25	1.70	2.45	3.83
0.8 and over 0.7	.80	.99	1.25	1.63	2.22	3.20	5.00
0.9 and over 0.8	1.01	1.25	1.58	2.06	2.81	4.05	6.33
1.0 and over 0.9	1.25	1.54	1.95	2.55	3.47	5.00	7.81
1.2 and over 1	1.80	2.22	2.81	3.67	5.00	7.20	11.25
1.5 and over 1.2	2.81	3.47	4.40	5.74	7.82	11.25	17.60
2 and over 1.5	5.00	6.17	7.82	10.00	13.80	20.00	31.25
3 and over 2	11.25	13.87	17.58	22.95	31.25	45.00	70.40
4 and over 3	20.00	24.70	31.25	40.80	55.60	80.00	125.00
5 and over 4	31.25	38.60	48.80	63.80	86.80	125.00	250.00
6 and over 5	45.00	55.60	70.40	91.80	125.00	180.00	281.25

It is expressly understood and agreed, however, that—

(*a*) At any time not less than 10 years after the date for the first payment under this section or after the last revision of the rates of compensation the Secretaries may review such rates after application by or notice to the permittee and impose such new rates of compensation, under a rule which shall be uniform for all permittees under like conditions, as they may decide to be reasonable and proper: *Provided*, That such rates shall not be so increased as to result in reducing the margin of income (including appreciation in land values) from the project over proper actual and estimated expenses (including reasonable allowance for renewals and sinking-fund charges) to an amount which, in view of all the circumstances (including fair development expenses and working capital) and risks of the enterprise (including obsolescence, inadequacy, and supercession), is unreasonably small; but the burden of proving such unreasonableness shall rest upon the permittee.

(*b*) For the purposes of this section complete development of the power site shall mean the construction of such permanent project works and the installation of such generating equipment as will provide for the full utilization of the total capacity of the power site.

(*c*) The average price for electric energy charged to customers and consumers of the permittee shall be determined by dividing the total actual and estimated annual receipts from the sale and disposition of electric energy by the total number of kilowatt hours generated: *Provided*, That in determining said total annual receipts there shall be included estimated receipts for any electric energy used by the permittee at a price which shall not be less than 2 cents per kilowatt hour, nor less than the cost per kilowatt hour of generating, transmitting, and delivering such energy to the point of use, taking into account proper operating and maintenance expenses, fixed charges, and reasonable allowances for renewals and sinking fund: *And provided further*, That if the permittee shall sell or dispose of electric energy to any consumer, said consumer being an association or corporation which the permittee owns or controls in whole or in part, or in which the permittee may have, hold, or control any interest, direct or indirect, by stock ownership or otherwise, the sale price per kilowatt hour at which the aforesaid annual receipts from such energy so sold or disposed of shall be computed shall not be less than as herein provided for in the computation of estimated receipts for energy used by the permittee:

And provided further, That if the permittee shall sell or dispose of electric energy to any customer, said customer being an association or corporation which the permittee owns or controls in whole or in part, or in which the permittee may have, hold, or control any interest, direct or indirect, by stock ownership or otherwise, the sale price per kilowatt hour at which the aforesaid annual receipts from such energy so sold and disposed of shall be computed shall not be less than the price paid for such energy by the consumers thereof, nor less than as herein provided for in the computation of estimated receipts for energy used by the permittee.

(*d*) Unless otherwise authorized by the Secretaries, the maximum price at which electric energy developed by or transmitted from the power project may be disposed of to customers or consumers shall not exceed 6 cents per kilowatt hour, and the maximum price at which such electric energy in excess of 2,000 kilowatt hours per annum with an average delivery of more than 35 per cent of the connected installation within the year may be disposed of to customers or consumers shall not exceed 2 cents per kilowatt hour, said maximum price being determined by dividing the total annual charge to the purchaser by the corresponding total annual delivery to him of electric energy. In contracts with its customers the permittee shall specify the maximum price of final sale or resale and shall reserve the right to cancel any contract or agreement for sale or resale of electric energy that provides for a price in excess of such maximum. Complaint by any customer or consumer of a price paid by him in excess of such maximum price will be received by the Secretaries in case of and after the failure of his attempts to obtain satisfaction from the permittee or other parties selling electric energy under the power system, and thereupon, after notice to all interested parties, with opportunity for hearing, the Secretaries will determine whether this condition has been violated.

(*e*) The permittee shall at no time contract for the delivery to any one customer of electric energy in excess of 50 per cent of the total deliverable capacity of the power site; nor shall the permittee deliver to any customer or consumer or use in its own manufacturing or other operations any amount of energy in excess of 50 per cent of said deliverable capacity if and when there are pending unfilled applications for energy from other customers or consumers.

SEC. 9. The total capacity of the power site shall be deemed and taken to be 112,000 horsepower.

It is expressly understood and agreed, however, that said total capacity of the power site may be adjusted by the Secretaries annually to provide for increase or decrease, by storage or otherwise, of available stream flow to an amount of 10 per cent, or more, or for increase or decrease of 10 per cent or more in average effective head, or in degree of practicable utilization, and that the decision of the Secretaries shall be final as to all matters of fact upon which the calculation of the capacity or compensation depends.

SEC. 10. The permittee shall pay the full value as fixed by the Secretaries for all timber cut, injured, or destroyed on Interior Department lands and on national forest lands in the construction, maintenance, and operation of the project works.

SEC. 11. The permittee shall pay the United States full value for all damages to the lands or other property of the United States resulting from the breaking of or the overflowing, leaking, or seeping of water from the project works, and for all other damage to the lands or other property of the United States caused by the neglect of the permittee or of the employees, contractors, or employees of the contractors of the permittee.

SEC. 12. The permittee shall install at such places and maintain in good operating condition in such manner as shall be approved or required by the Secretaries accurate meters, measuring weirs, gauges, or other devices approved by the Secretaries and adequate for the determination of the amount of electric energy generated by the project works and delivered under the power system and of the flow of the stream or streams from which the water is to be diverted for the operation of the project works and of the amount of water used in the operation of the project works and of the amounts of water held in and drawn from storage; and shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Secretaries; and shall make a return during January of each year under oath of such of the records of measurements for the year ended on December 31 preceding made by or in the possession of the permittee as may be required by the Secretaries.

SEC. 13. The books and records of the permittee shall be open at all times to the inspection and examination of the Secretaries, or other officer or agent of the United States duly authorized to make such inspection and examination.

SEC. 14. On demand of the Secretaries the permittee shall install a system of accounting for the entire power business in such form as the Secretaries may prescribe, which system, as far as is practicable, will be uniform for all permittees, and shall render annually such reports of its power business as the Secretaries may direct: *Provided, however*, That if the laws of the State in which the power business or any part thereof is transacted require periodical reports from public utility corporations under a uniform system of accounting, copies of such reports so made will be accepted as fulfilling the requirements of this clause in so far as they contain the information that may be required by the Secretaries.

SEC. 15. The permittee shall protect all Government and other telephone, telegraph, and power transmission lines at crossings of and at all places of proximity to the permittee's transmission lines in a workmanlike manner according to the usual standards of safety for construction, operation, and maintenance in such cases, and shall maintain the transmission lines of the project in such manner as not to menace life or property.

SEC. 16. The permittee shall clear and keep clear the Interior Department lands and national forest lands along the transmission lines for such width and in such manner as the officer of the United States having supervision of such lands may direct.

SEC. 17. The permittee shall dispose of all brush, refuse, or unused timber on Interior Department lands and national forest lands resulting from the construction and maintenance of the project works to the satisfaction of the officer last aforesaid.

SEC. 18. The permittee shall build and repair such roads and trails as may be destroyed or injured by construction work or flooding under the permit and shall build and maintain necessary and suitable crossings for all roads and trails that intersect the water conduit constructed, maintained, or operated under the permit.

SEC. 19. The permittee shall do everything reasonably within the power of the permittee, both independently and on request of the Secretaries or other duly authorized officers or agents of the United States to prevent and suppress fires on or near the lands to be occupied under the permit.

SEC. 20. The permittee shall indemnify the United States against any liability for damages to life or property arising from the occupancy or use of Interior Department lands and national forest lands by the permittee.

SEC. 21. The permittee shall sell power to the United States, when requested, at as low a price as is given to any other purchaser for a like use at the same time and under similar conditions, if the permittee can furnish the same to the United States without diminishing the quantity of power sold before such request to any other customer by a binding contract of sale: *Provided*, That nothing in this clause shall be construed to require the permittee to increase permanent works or install additional generating machinery.

SEC. 22. The permittee shall abide by such reasonable regulation of the service rendered and to be rendered by the permittee to consumers of power furnished or transmitted by the permittee and of prices to be paid therefor as may from time to time be prescribed by the State or any designated agency of the State in which the service is rendered: *Provided*, That for the purposes of this section any such regulation shall be deemed to be suspended pending proceedings in the courts of such State, or in the Supreme Court of the United States on appeal from said State courts where such proceedings are in the nature of an appeal taken direct from the officer, commission, or board prescribing such regulation to said State courts: *And provided further*, That in the absence of regulation of service and prescribing of prices by any State agency, jurisdiction in the premises will, in their discretion, be exercised by the Secretaries.

SEC. 23. Upon demand in writing by the Secretaries to surrender the permit to the United States, or to transfer the same to such State or municipal corporation as the Secretaries may designate, and to give, grant, bargain, sell, and ransfer with the permit all works, equipment, structures, and property then owned or held by the permittee on lands of the United States occupied or used under the permit, and then valuable or serviceable in the generation, transmission, and distribution of power: *Provided*, (*a*) That such surrender or transfer shall not be demanded in the case of a municipal corporation unless by condemnation such corporation shall have acquired, or unless by proceedings in a court of competent jurisdiction it shall have been determined that such a municipal corporation has the right to acquire the property of the permittee situated elsewhere than on public land, or unless such municipal corporation

has the power to acquire the property and rights of the permittee in accordance with the following conditions: (*b*) That such surrender or transfer shall be on condition precedent that the United States shall pay, or the transferee shall first pay, to the permittee the reasonable value of all such works, equipment, structures, and property to be surrendered or transferred; (*c*) that such reasonable value shall not include any sum for any permit, right, franchise, or property granted by any public authority in excess of the sum paid to such public authority as a purchase price therefor; and (*d*) that such reasonable value shall be determined by mutual agreement of the parties in interest, and in case they can not agree, by the Secretaries under a rule which, except as modified by the requirements of this section, shall be the then existing rule of valuation for power properties in condemnation proceedings in the State in which the properties to be surrendered or transferred are located. But nothing herein shall prevent the United States or any State or municipal corporation from acquiring by any other lawful means the permit or the works, [illegible] structures, or property then owned or held by the permittee on [illegible] the United States occupied or used under the permit.

SEC. 24. In respect to the regulation, by any competent public authority, of the services to be rendered by the permittee or of the prices to be charged therefor, and in respect to any purchase or taking over of the properties or business of the permittee or any part thereof by the United States or by any State within which the works are situated or business is carried on in whole or in part, or by any municipal corporation in such State, no value whatsoever shall at any time be assigned to or claimed for the permit or for the occupancy or use of Interior Department lands or national forest lands thereunder, nor shall the permit or such occupancy or use ever be estimated or considered as property upon which the permittee shall be entitled to earn or receive any return, income, price, or compensation whatsoever.

SEC. 25. The works to be constructed, maintained, and operated under the permit shall not be owned, leased, trusteed, possessed, or controlled by any device or in any manner so that they form part of or in any way effect any combination in the form of an unlawful trust, or form the subject of any unlawful contract or conspiracy to limit the output of electric energy, or in restraint of trade with foreign nations or between two or more States, or within any one State in the generation, sale, or distribution of electric energy. Except as in this agreement specifically provided, the permittee shall not agree or arrange in any manner whatsoever with any other party generating or disposing of electric energy with a view to the avoidance of competition or the fixing, maintenance, or increase of prices for electric energy or service.

SEC. 26. This permit shall be indeterminate as to time during compliance with the conditions of this agreement by the permittee, or until the United States or any State or municipal corporation shall exercise its option to purchase as provided in section 23. It is expressly understood and agreed, however, that the permit may be revoked by the Secretaries, after due notice to the permittee with opportunity for hearing, on a finding by them that any part of the amounts due for the compensation or the charges herein provided for, after due notice has been given, are in arrears for six months; or on a finding by the Secretaries that any of the provisions of this agreement or any of the regulations of the Secretaries or the provisions of the act of Congress to which the permit is subject as provided in section 2 hereof have been violated by the permittee.

It is further understood and agreed that under the terms of said act of Congress "any permission given by the Secretary of the Interior under the provisions of this act may be revoked by him or by his successor in his discretion."

It is further understood and agreed that at intervals of not less than 20 years, on application of the permittee or on demand of the Secretaries, this agreement and the permit shall be modified to conform to the then subsisting regulations fixed by the Secretaries under said act of February 15, 1901, or amendments thereto.

SEC. 27. The permittee shall in the exercise of the permission given by the permit, at all times conform to and abide by such rules and regulations subserving the purpose of any reserved lands of the United States through which right of way is sought as may be prescribed by the officer having jurisdiction over such lands.

SEC. 28. The permit does not affect the rights to the occupancy of lands granted by the State of Washington or any rights, privileges, or franchises conferred upon the permittee by virtue of the act of Congress approved February

25, 1907 (34 Stat., 931), as amended by the act of Congress approved May 20, 1912 (37 Stat., 115), entitled "An act to extend the time for the construction of a dam across the Pend d'Oreille River, Washington," or impair or affect the rights conferred upon the said permittee by compliance with the provisions of the act of Congress approved June 23, 1910 (36 Stat., 593), entitled "An act to regulate the construction of dams across navigable waters."

SEC. 29. On proper application by the permittee under subsisting regulations fixed by the Secretaries, the permit may be amended to provide for the construction, operation, and maintenance of additional project works and the use of additional rights of way for the power project. Any application for such amendment and approval thereof shall be in the form of a supplemental agreement and permit so drawn as to become a part of the original agreement and permit.

SEC. 30. The permit and the right of way thereby afforded shall be subject to all prior valid rights and to a reservation of right of way for canals or ditches constructed by authority of the United States.

In witness whereof the permittee has caused these presents to be executed, in triplicate, by its vice president and agent and its corporate seal to be hereto affixd by its vice president, both thereunto duly authorized, this 28th day of July, 1913.

[SEAL.] INTERNATIONAL POWER & MANUFACTURING CO.,
By WILBUR S. YEARSLEY, *Vice President.*

Attest:

N. S. COMBS, JR.
M. T. BUNCH.

ACKNOWLEDGMENT.

DISTRICT OF COLUMBIA, *ss:*

On this 28th day of July, 1913, before me, a notary public in and for said county, duly commissioned and sworn, my commission expiring November 6, 1913, personally came Wilbur S. Yearsley to me personally known, who being by me duly sworn, did depose and say that he resides in Spokane, Wash.; that he is the vice president of the International Power & Manufacturing Co.; that said company is the corporation that is described in and that executed the foregoing agreement; that he knows the seal of said corporation; that the seal affixed to the foregoing agreement is such corporate seal and was affixed to such instrument by order of the board of directors of said corporation; and that he signed his name thereto by like order; and the said Wilbur S. Yearsley acknowledged the foregoing agreement to be the free act and deed of said corporation.

Witness my hand and official seal the day and year first hereinbefore written.

[Notarial seal.] E. C. OWEN,
Notary Public.

My commission expires November 6, 1913.

PERMIT.

In pursuance of the act of Congress approved February 15, 1901 (c. 327; 31 Stat., 790), and in pursuance of the general regulations thereunder fixed, respectively, by the Secretary of the Interior and the Secretary of Agriculture, and in consideration of the conditions made and accepted in the foregoing agreement, permission to use the right of way through the public lands and reservations of the United States under the jurisdiction of the Department of the Interior and the Department of Agriculture sought by and described in the application identified in the foregoing agreement is hereby given to the said International Power & Manufacturing Co., subject, however, to the said general regulations and to the conditions in said agreement, such permission, subject to such regulations and conditions, having been found by us to be not incompatible with the public interest.

In witness whereof we have subscribed these presents, in triplicate, on this 29th day of July, 1913.

ANDRIEUS A. JONES,
Acting Secretary of the Interior.
D. F. HOUSTON,
Secretary of Agriculture.

EXHIBIT N.

PARTIAL LIST OF WATER-POWER PLANTS IN THE WESTERN UNITED STATES.

The following list shows the location and installed water-wheel capacity of most of the water-power plants in the States of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

These data were compiled at the Geological Survey from information available in that office and in the Forest Service. The time available for the compilation was very short, and it is likely that some existing plants have been overlooked, and that locations and capacities are not in all cases accurate. It is believed, however, that the list is a fairly reliable one.

In addition to constructed plants, all those for which permits under the act of February 15, 1901 (31 Stat., 790), are in force have been included in the tabulation. In the case of plants on which the construction has not been completed, the estimated capacity of machinery has been listed in the column of capacities.

ARIZONA.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
			G. and S. R. M.	
1	Arizona Power Co.	Fossil Creek	T. 12 N., R. 7 E., sec. —	9,000
2	United States Reclamation Service.	Salt River	T. 2 N., R. 6 E., sec. —	4,500
3	Apache Power Co.		T. 5 N., R. 18 E., sec. —	[1] 2,600
				16,100

CALIFORNIA.

			M. D. M.	
1	California-Oregon Power Co.	Fall Creek	T. 48 N., R. 4 W., sec. —	3,670
2	do	Shasta River	T. 46 N., R. 7 W., sec. 36	450
3	Western States Gas & Electric Co.	Trinity River	T. 34 N., R. 11 W., sec. 36	2,000
4	do	American River	T. 11 N., R. 11 E., sec. 29	4,000
5	Northern California P. Co. Con.	North Fork, Cow Creek	T. 33 N., R. 1 E., sec. (34?)	5,300
6	do	Snow Creek	T. 31 N., R. 1 E., sec. (7?)	1,600
7	do	Butte Creek (Volta)	T. 30 N., R. 1 E., sec. (14?)	8,800
8	do	Little Butte Creek (south power house).	T. 29 N., R. 1 E., sec. (9?)	5,300
9	do	Little Butte Creek (inskip).	T. 29 N., R. 1 W., sec. (4?)	8,000
10	do	Butte Creek (Coleman)	T. 29 N., R. 2 W., sec. (6?)	15,000
11	do	South Cow Creek	T. 31 N., R. 1 W., sec. (6?)	2,000
12	Great Western Power Co.	Butte Creek	T. 26 N., R. 7 E., sec. 25	1,800
13	do	North Fork Feather River (Las Plumas).	T. 21 N., R. 5 E., sec. (19?)	53,300
14	do	North Fork Feather River (project No. 2).	T. 25 N., R. 7 E.	[1] 25,800
15	do	North Fork Feather River (project No. 3).	T. 23 N., R. 5 E.	[1] 41,700
16	do	North Fork Feather River (project No. 4).	T. 22 N., R. 4 E.	[1] 29,700
17	do	North Fork Feather River (project No. 5).	T. 26 N., R. 8 E.	[1] 38,160
18	Pacific Gas & Electric Co.	North Fork Yuba River.	T. 17 N., R. 7 E., sec. (16?)	19,800
19	do	Deer Creek	T. 17 N., R. 10 E., sec. (28?)	7,330
20	do	North Fork American River (Alta).	T. 16 N., R. 10 E., sec. (36?)	4,000
21	do	North Fork American River (Newcastle).	T. 12 N., R. 8 E., sec. (17?)	1,060
22	do	American River (Folsom).	T. 10 N., R. 7 E., sec. (36?)	5,000
23	do	Mokelumne River (Electra).	T. 6 N., R. 12 E., sec. 33	26,600

[1] No machinery installed; capacity estimated.

CALIFORNIA—Continued.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
			M. D. M.	
24	Pacific Gas & Electric Co.	Butte Creek (De Sabla).	T. 23 N., R. 3 E., sec. (3?)	17,300
25	do	Butte Creek (Centerville).	T. 22 N., R. 3 E., sec. (5?)	8,500
26	do	Bear River (Drum)	T. 16 N., R. 11 E., sec. 16	33,300
27	Oro Electric Corporation	West Branch of North Fork of Feather River (Lime Saddle).	T. 21 N., R. 4 E., sec. 7	2,700
28	do	Coal Canyon	T. 20 N., R. 3 E., sec. 1	1,300
29	do	Yellow Creek	T. 25 N., R. 7 E	[1] 18,000
31	Snow Mountain Power Co.	Potter Valley	T. 17 N., R. 11 W., sec. 5	8,700
32	Utica Gold Mining Co.		T. 4 N., R. 14 E., sec. 33	2,000
33	Sierra & San Francisco Power Co.	Stanislaus	T. 3 N., R. 15 E., sec. 6	45,000
34	do	Phoenix	T. 2 N., R. 15 E., sec. 16	2,500
35	do	Stanislaus River (Knights Ferry).	T. 1 S., R. 12 E., sec. 21	2,000
36	Tuolumne Electric Co	Tuolumne River	T. 1 S., R. 17 E., sec. 6	800
37	Pacific Power Co.	Mill Creek	T. 2 N., R. 25 E., sec. 12	4,000
38	Yosemite Power Co.	Tuolumne River (La Grange).	T. 3 S., R. 14 E., sec. 20	1,200
39	Mariposa Mining & Com. Co.	Merced River (Bagby)	T. 4 S., R. 17 E., sec. 7(?)	1,300
40	Coast Counties Gas & Electric Co.	Big Creek	T. 10 S., R. 3 W., sec. 7	1,080
41	San Joaquin Light & Power Corporation.	North Fork of San Joaquin River (San Joaquin No. 3).	T. 8 S., R. 22 E., sec. 12	2,700
42	do	San Joaquin River (new San Joaquin).	T. 9 S., R. 23 E., sec. 18	21,000
43	do	Kern River (Bakersfield Canyon).	T. 29 S., R. 30 E., sec. 6	1,780
44	Southern Sierras Power Co.	Bishop Creek No. 2	T. 8 S., R. 31 E., sec. 9	8,000
45	do	Bishop Creek No. 3	T. 7 S., R. 31 E., sec. 36	9,000
46	do	Bishop Creek No. 4	T. 7 S., R. 32 E., sec. 19	8,000
47	do	Bishop Creek No. 5	T. 7 S., R. 32 E., sec. 17	2,000
48	do	Bishop Creek No. 6	T. 7 S., R. 32 E., sec. 9	2,700
49	City of Los Angeles	Division Creek No. 1	T. 11 S., R. 34 E., sec. 33	200
50	do	Division Creek No. 2	T. 11 S., R. 34 E., sec. 27	800
51	do	Cottonwood Creek No. 1.	T. 17 S., R. 36 E., sec. 15	2,000
52	Pacific Light & Power Co.	Kern River (Borel)	T. 27 S., R. 32 E., sec. 10	13,000
53	do	Big Creek No. 1	T. 8 S., R. 25 E., sec. 21	46,500
54	do	Big Creek No. 2	T. 8 S., R. 24 E., sec. 25(?)	46,500
			S. B. M.	
55	Pacific Light & Power Co.	San Gabriel River	T. 1 N., R. 10 W., sec. 22	2,000
56	do	San Antonio Creek (Sierra).	T. 2 N., R. 8 W., sec. 36	800
57	do	Riverside	T. 2 S., R. 5 W., sec. 25	800
58	do	Highgrove	T. 2 S., R. 4 W., sec. 17(?)	200
59	Pacific Light & Power Corporation.	Santa Ana River (Mentone).	T. 1 S., R. 2 W., sec. 4	2,000
			M. D. M.	
60	Mount Whitney Power & Electric Co.	Tule River	T. 21 S., R. 30 E., sec. 6	2,650
61	do	Kaweah River No. 1	T. 17 S., R. 29 E., sec. 8	1,700
62	do	Kaweah River No. 2	T. 17 S., R. 29 E., sec. 7	2,000
63	do	Kaweah River No. 3	T. 16 S., R. 29 E., sec. 23(?)	3,500
64	do	Kaweah River	T. 17 S., R. 29 E., sec. 3	[1] 1,980
65	Southern California Edison Co.	Kern River No. 1	T. 28 S., R. 30 E., sec. 29	26,100
			S. B. M.	
66	Southern California Edison Co.	Lytle Creek	T. 1 N., R. 5 W., sec. 6	650
67	do	Santa Ana River No. 1.	T. 1 N., R. 2 W., sec. 26	4,000
68	do	Santa Ana River No. 2.	T. 1 N., R. 2 W., sec. 34	1,300
69	do	Mill Creek No. 1	T. 1 S., R. 2 W., sec. 14	1,000
70	do	Mill Creek No. 2	T. 1 S., R. 2 W., sec. 13	330
71	do	Mill Creek No. 3	T. 1 S., R. 2 W., sec. 13	4,000
72	Ontario Power Co.	San Antonio Creek	T. 1 N., R. 8 W., sec. 13	1,000
73	Holton Power Co.	Alamo River (Holtville).	T. 15 S., R. 15 E., sec. 36	1,700

[1] No machinery installed; capacity estimated.

CALIFORNIA—Continued.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
			S. B. M.	
74	C. G. Baldwin	Mill Creek	T. 1 S., R. 1 W., sec. 12	[1] 1,100
76	Union Power Co	Santa Ana River and Forsee Creek.	T. 1 N., R. 1 W	[1] 1,500
77	Little Rock Power & Water Co	Little Rock Creek		[1] 350
78	Consolidated Reservoir & Power Co.	Whitewater and San Gorgonia River.	T. 2 S., R. 1 E., sec. 3	[1] 300
79	Volcan Land & Water Co	San Luis Rey River	T. 11 S., R. 1 E	[1] 3,600
80	Mokelumne River Power Co	Mokelumne River	T. 7 N., R. 14 E., sec. 18	[1] 21,300
81	Truckee River General Electric Co.	Rubicon River	T. 13 N., R. 12 E., sec. —	[1] 36,630
82	Bishop Creek Gold Co	Bishop Creek	T. 8 S., R. 31 E., sec. —	[1] 594
83	Black Rock Development Co	Goodale Creek		[1] 110
84	Mount Shasta Power Corp	Pitt River	T. 35 N., R. 1 W., sec. —	[1] 113,179
85	Indian Valley Electric Light & Power Co.	North Fork of Yellow River.		[1] 1,420
86	Feather River Power & Irrigation Co.	Indian Creek	T. 25 N., R. 9 E., sec. 3	[1] 2,780
87	Trinity Gold Mining & Reduction Co.	Coffee Creek	T. 37 N., R. 7 W., sec. 17	533
88	A. G. Wishon	North Fork of San Joaquin.	T. 8 S., R. 22 E., sec. 12	[1] 1,739
89	San Francisco city	Tuolumne		[1] 59,000
90	Merced River Electric Co	Merced River	T. 3 S., R. 19 E., sec. 22	[1] 2,600
91	Utica Gold Mining Co. and Hobart estate.	North Fork of Stanislaus River.	T. 4 N., R. 19 E., sec. 33	[1] 4,550
92	Yosemite Power Co	South Fork of Tuolumne River.	T. 1 S., R. 18 E., sec. 19	[1] 15,500
93	Globe Consolidated Mining Co	Canyon Creek	T. 35 N., R. 10 W., sec. —	[1] 150
94	Southern California Edison Co	Kern River Plants Nos. 2 to 5	T. 22 S., R. 32 E., sec. — T. 21 S., R. 33 E., sec. — T. 23 and 25 S., R. 33 E., sec. —	[1] 32,720
95	M. C. Polk	Mill Creek	T. 27 N., R. 1 E., sec. —	[1] 3,668
96	Bishop Creek Milling Co	Bishop Creek	T. 8 S., R. 31 E., sec. 29	
97	Cora Diable Gold Mining Co			
98	Crystal Lake Gold Mining Co			
99	Tonopah Gold Mining Co			99
100	P. B. Steifer Mining Co	West Branch of North Fork of Feather River.	T. 23 N., R. 4 E., sec. 19	722
101	Trinity Bonanza King Mining Co.	Trinity River	T. 37 N., R. 7 W., sec. 17	
102	Original Mining & Milling Co	Merced River	T. 3 S., R. 19 E., sec. 21	240
103	W. G. Douglas			510
104	California Power Co	Kern River	T. 25 S., R. 33 E., sec. 9	[1] 17,700
105	do	do	T. 28 S., R. 31 E., sec. 5	[1] 10,800
106	Globe Light & Power Co	South Fork of Tule River.	T. 20 S., R. 29 E., sec. 36	
107	Mono Power Co	Owens River	T. 5 S., R. 31 E., sec. 22	[1] 12,600
			S. B. M.	
108	A. E. Poole	Whitewater Creek	T. 3 S., R. 3 E., sec. 10	[1] 680
			M. D. M.	
109	Sacremento Electric, Gas & Railway Co.	American River	T. 11 N., R. 13 E., sec. 12	[1] 3,060
110	Stanislaus Electric Power Co	Stanislaus River	T. 3 N., R. 13 E., sec. 14	[1] 28,000
111	Horace H. Weigart	Bear Creek	T. 31 N., R. 2 W., sec. 26	[1] 970
112	Trinity Dredging Co	Stewarts Creek	T. 35 N., R. 9 W., sec. —	400
				1,061,494

COLORADO.

			N. M. M.	
1	Durango Gas & Electric Co	Durango	T. 35 N., R. 9 W., sec. —	4,000
2	San Juan Water & Power Co	San Juan	T. 36 N., R. 9 W., sec. —	6,000
3	Montrose Electric Light & Power Co.	Montrose	T. 49 N., R. 9 W., sec. —	4,000

[1] No machinery installed; capacity estimated.

COLORADO—Continued

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
			Sixth P. M.	
4	Delta Electric Light & Power Co.	Delta	T. 15 S., R. 95 W., sec. —	2,600
			N. M. M.	
5	Salida L. P., & Utility Co	Marysville	T. 49 N., R. 7 E., sec. —	900
			Sixth P. M.	
6	Black Hills & Denver G. M. Co.	Jenny Creek	T. 1 S., R. 73 W., sec. 30	110
7	J. H. Kemp	Middle Boulder Creek.	T. 1 S., R. 73 W., sec. 20	150
8	Two American Sisters M. Co	South Fork Clear Creek	T. 4 S., R. 74 W., sec. —	500
9	Continental Mines, Power & Reduction Co.	Fall River	T. 4 S., R. 73 W., sec. —	720
10	J. G. Roberts		T. 3 S., R. 73 W., sec. 36	120
11	Consolidated Gem Mines Co	Clear Creek	T. 3 S., R. 72 W., sec. —	600
12	Summit County Power Co	Dillon	T. 5 S., R. 78 W., sec. 13	1,340
13	do		T. 7 S., R. 77 W., sec. —	700
14	Colorado Power Co	Middle Boulder Creek.	T. 1 N., R. 71 W., sec. 36	21,000
15	Wolf Tongue Mining Co	do	T. 1 S., R. 73 W., sec. 13	150
16	Colorado Metals & Chemical Co	Bailey Mill	T. 1 S., R. 73 W., sec. —	.....
17	United States Gold Corporation.	Livingston Mill (North Boulder Creek).	T. 1 N., R. 72 W., sec. —	.....
18	Prince Arthur Mining & Mlg. Co.	Prussian Mill (Left Hand Creek).	T. 1 N., R. 72 W., sec. —	125
19	do	Left Hand Creek	T. 1 N., R. 72 W., sec. —	.....
20	Estes Park Electric Light & Power Co.	Fall River	T. 5 N., R. 72 W., sec. —	270
21	City of Longmont	North St. Vrain Creek.	T. 3 N., R. 71 W., sec. 16	500
22	Buena Vista Electric Light & Power Co.	Arkansas River	T. 14 S., R. 78 W., sec. 6	125
23	Arkansas Valley Ry. Light & Power Co.	West Beaver Creek	T. 16 S., R. 68 W., sec. 30	2,400
24	Colorado Springs L. & P. Co	Pikes Peak	T. 14 S., R. 67 W., sec. 6	3,000
25	Colorado Power Co	Shoshone	T. 5 S., R. 88 W., sec. —	18,000
26	Grand Valley Irrigation District.	Morris Pump station	T. 6 S., R. 94 W., sec. 29	280
			Ute M.	
27	Redlands Irrigation & Power Co.	Grand River	T. 1 S., R. 1 W., sec. 16	2,000
28	Orchard Mesa Irrigation District.	do	T. 1 S., R. 2 E., sec. 2	2,250
			Sixth P. M.	
29	Roaring Fork Electric Light & Power Co.	Castle Creek	T. 10 S., R. 84 W., sec. —	2,900
30	Crystal River Marble Co	Yule Creek	T. 12 S., R. 87 W., sec. —	425
31	Colorado Yule Marble Co	Crystal River	T. 11 S., R. 88 W., sec. —	1,750
32	Rifle Light, Heat & Power Co	Rifle Creek	T. 4 S., R. 93 W., sec. —	247
			N. M. M.	
33	Hidden Treasure Mining Co	Henson Creek	T. 44 N., R. 6 W., sec. —	146
34	Ouray Electric Power and Light Co.	Uncompahgre River	T. 44 N., R. 7 W., sec. —	600
35	Telluride Power Co	Ames	T. 42 N., R. 9 W., sec. —	4,825
36	do	Ilium	T. 42, N., R. 9 W., sec. 6	1,600
37	San Juan Water & Power Co	Rockwood	T. 38 N., R. 8 W., sec. 31	6,000
			Sixth P. M.	
38	Glenwood Light & Water Co	Grizzly Creek	T. 6 S., R. 89 W., sec. —	530
			N. M. M.	
39	Salida L., P. & Utility Co		T. 49 N., R. 8 E., sec. —	550
			Sixth P. M.	
40	United Hydroelectric Co	Georgetown	T. 4 S., R. 74 W., sec. —	1,800
			Ute M.	
41	City of Grand Junction		T. 1 S., R. 1 W., sec. —	750

[1] No machinery installed; capacity estimated.

COLORADO—Continued.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
			Sixth P. M.	
42	Greeley Hydroelectric Co.		T. 8 N., R. 75 W., sec. —	[1] 2,500
43	....do		T. 8 N., R. 72 W., sec. —	[1] 1,000
44	....do		T. 6 N., R. 74 W., sec. —	[1] 400
45	....do		T. 8 N., R. 75 W., sec. —	[1] 500
46	....do		T. 8 N., R. 75 W., sec. —	[1] 400
47	....do		T. 8 N., R. 76 W., sec. —	[1] 200
48	....do		T. 8 N., R. 72 W., sec. —	[1] 5,000
49	W. B. Eyre	Chalk Creek	T. 15 S., R. 79 W., sec. —	[1] 600
50	Tin Cup Gold Dredging Co.	St. Elmo	T. 15 S., R. 80 W., sec. —	300
			N. M. M.	
51	Rico Mining Co.	Rico	T. 40 N., R. 11 W., sec. —	300
52	W. U. S. Parsons	Rio Grande	T. 41 N., R. 1 W., sec. —	[1] 2,500
53	Charles S. Barnes	Conejos	T. 36 N., R. 4 W., sec. —	[1] 2,000
54	L. F. Cornwell	Brush Creek	T. 46 N., R. 12 E., sec. —	[1] 500
55	....do		T. 45 N., R. 12 E., sec. —	[1] 150
			Sixth P. M.	
56	Rocky Mountain Development Co.	Roaring Fork	T. 11 S., R. 83 W., sec. —	[1] 5,000
57	United Colorado Mines Co.	Dorchester	T. 12 S., R. 83 W., sec. —	300
58	Eagle Mining & Milling Co.		T. 5 S., R. 84 W., sec. —	130
			N. M. M.	
59	M. L. Thistle		T. 43 N., R. 7 W., sec. —	125
60	Indiana-Colorado Mining & Milling Co.		T. 44 N., R. 6 W., sec. —	250
			Sixth P. M.	
61	East Argentine Tunnel, Mining, Milling, Power & Transportation Co.	Grand River	T. 1 S., R. 82 W., sec. 23	[1] 2,400
62	Rocky Mountain Power & Transportation Co.		T. 3 N., R. 72 W., sec. 20	[1] 2,840
				121,358

IDAHO.

			B. M.	
1	Idaho Ry. Light & Power Co.	Snake River (Swan Falls).	T. 2 S., R. 1 E., sec. 18	10,800
2	....do	Snake River (Crane Falls).	T. 5 S., R. 5 E., sec. 22	[1] 20,000
3	....do	Payette River (Horseshoe Bend).	T. 7 N., R. 2 E., sec. 32	2,000
4	....do	Boise River (Boise)	T. 3 N., R. 2 E., sec. 15	3,200
5	....do	Boise River (Barber)	T. 3 N., R. 3 E., sec. 29	1,200
6	Great Shoshone & Twin Falls Water Power Co.	Snake River (Shoshone Falls).	T. 9 S., R. 17 E., sec. 36	4,140
7	....do	Snake River (Lower Salmon).	T. 7 S., R. 13 E., sec. 2	7,300
8	....do	Snake River (Upper Salmon).	T. 8 S., R. 13 E., sec. 2	[1] 35,000
9	Idaho Consolidated Power Co.	Snake River (American Falls).	T. 7 S., R. 31 E., sec. 31	2,000
10	Thousand Springs Power Co.	Thousand Springs	T. 8 S., R. 14 E., sec. 8	3,000
11	Idaho Power & Transportation Co.	Snake River (Idaho Falls).	T. 2 N., R. 37 E., sec. 26	4,000
12	Beaver River Power Co.	Malade River	T. 6 S., R. 13 E., sec. 35	7,500
13	United States Reclamation Service.	Boise River	T. 2 N., R. 3 E., sec. 3	2,175
14	....do	Snake River (Minidoka).	T. 9 S., R. 25 E., sec. 1	10,000
15	Idaho Consolidated Mining Co.	Wood River	T. 1 N., R. 18 E., sec. —	300
16	Cramer Electric Co.	Hailey	T. 2 N., R. 18 E., sec. —	400
17	Independence Mining Co.	Wood River	T. 2 N., R. 18 E., sec. —	400

[1] No machinery installed; capacity estimated.

IDAHO—Continued.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
			B. M.	
18	City of Idaho Falls	Snake River (Idaho Falls).	T. 2 N., R. 38 E., sec. 19	[1] 8,200
19	Gem State Power Plant	Snake River (Shelley)	T. 1 N., R. 37 E., sec. 15	[1] 12,700
20	St. Anthony Light & Power Co.	St. Anthony Falls	T. 7 N., R. 40 E., sec. 1	[2] 100
21	Washington Water Power Co.	Spokane River (Post Falls).	T. 50 N., R. 5 W., sec. —	15,000
22	Grangeville Electric Light & Power Co.	South Fork Clearwater.	T. 30 N., R. 4 E., sec. —	418
23	Nesperce Water Power Co.	Solo Creek	T. 34 N., R. 4 W., sec. —	100
24	Utah Power & Light Co.	Bear River (Grace)	T. 10 S., R. 40 E., sec. 21	17,000
25	do	Bear River (Oneida)	T. 13 S., R. 40 E., sec. 23	[3] 27,000
26	do	Georgetown	T. 11 S., R. 44 E., sec. 4	300
27	do	Paris	T. 14 S., R. 43 E., sec. 9	1,000
28	do	High Creek	T. 15 S., R. 40 E., sec. 34	750
29	E. L. Evans	Birch Creek No. 1	T. 12 S., R. 36 E., sec. 29	200
30	do	Birch Creek No. 2	T. 12 S., R. 36 E., sec. —	[1] 500
31	G. C. McLaughlin	Birch Creek	T. 12 S., R. 36 E., sec. —	[1] 500
32	Continental M. & P. Co.	Bonner County		150
33	F. O. Nelson	Bear River	T. 9 S., R. 41 E., sec. —	[1] 12,000
34	Mackay Light & Power Co.	Cedar Creek	T. 8 N., R. 24 E., sec. —	135
35	A. S. Ross	Deer Creek	T. 20 N., R. 19 E., sec. —	[1] 350
36	W. D. Bush	Indian Creek	T. 20 N., R. 3 W., sec. —	[1] 7,000
37	Wharton Power Plant	South Fork Payette River.	T. 9 N., R. 4 E., sec. —	2,000
38	Highland Valley Power Co.	Boise River	T. 3 N., R. 4 E., sec. —	2,000
				221,318

MONTANA.

1	Montana Power Co.	Thompson Falls	T. 21 N., R. 29 W., sec. —	40,000
2	do	Big Hole	T. 1 S., R. 10 W., sec. 11	4,000
3	do	Madison River No. 2	T. 4 S., R. 1 E., sec. 17	12,000
4	do	Madison River No. 1	T. 4 S., R. 1 E., sec. 20	3,000
5	do	Livingston	T. 1 S., R. 10 E., sec. —	2,000
6	do	Billings	T. 1 S., R. 26 E., sec. —	2,000
7	do	Canyon Ferry (Missouri River).	T. 10 N., R. 1 W., sec. 10	10,000
8	do	Hauser Lake (Missouri River).	T. 12 N., R. 2 W., sec. 29	19,000
9	do	Holter (Missouri River)	T. 14 N., R. 3 W., sec. 8	47,000
10	do	Rain Bow Falls (Missouri River).	T. 21 N., R. 4 E., sec. 35	36,000
11	do	Great Falls "C" (Missouri River).	T. 21 N., R. 5 E., sec. 30	[1] 33,000
12	do	Great Falls "D" (Missouri River).	T. 21 N., R. 5 E., secs. 17+20	[1] 80,000
13	do	Black Eagle Falls (Missouri River).	T. 21 N., R. 4 E., sec. —	8,000
14	Bouscaren	Stillwater River	T. 5 S., R. 15 E., sec. (?)	[1] 8,000
15	S. C. Kimball	Rosebud Creek	T. 7 S., R. 17 E., sec. (?)	[1] 7,000
16	Kootenai Power Co.	Kootenai River	T. 31 N., R. 32 W., sec. —	[1] 30,000
17	Anaconda Copper Mining Co.	Flint Creek	T. 6 N., R. 14 W., sec. (?)	1,500
18	Cook Mining & Reduction Co.		T. 9 S., R. 14 E., sec. (?)	134
19	State of Montana	Racetrack Creek	T. 6 S., R. 12 W., sec. (?)	1,000
20	Union Electric Co.		T. 8 S., R. 9 W., sec. —	300
21	do		T. 7 S., R. 8 W., sec. —	250
22	F. F. Faucett		T. 23 N., R. 19 W., sec. —	[1] 1,200
23	Northern Idaho & Montana Power Co.	Big Fork	T. 27 N., R. 19 W., sec. —	3,300
24	Missoula Light and Water Co. (?)	Missoula River	T. 13 N., R. 18 W., sec. —	4,000
25	Montana Power Co.	Prospect Creek	T. 21 N., R. 30 W., sec. (?)	1,000
26	Western Montana Power Co.	Clark Fork	T. 22 N., R. 30 W., sec. 26	[1] 3,400
				357,084

[1] No machinery installed; capacity estimated.
[2] Not operated.
[3] Construction practically completed.

NEVADA.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
1	Elko-Lamoille Co	Lamoille Creek	T. 35 N., R. 58 E., sec. —	500
2	Schmidt & Mace		T. 21 S., R. 65 E., sec. —	[1] 50,000
3	Nevada Copper Mining, Milling & Power Co.		T. 45 N., R. 62 E., sec. —	[1] 1,500
4	Sierra Pacific Power Co	Truckee River (Verdie)	T. 19 N., R. 18 E., sec. 8	4,000
5	do	Farad	T. 18 N., R. 17 E., sec. —	2,000
6	do	Fleish	T. 19 N., R. 18 E., sec. 29	2,660
7	do	Washoe	T. 19 N., R. 18 E., sec. 14	2,000
8	do	Reno	T. 19 N., R. 19 E., sec. 10	930
				63,590

NEW MEXICO.

1	Treasure Mining & Reduction.	Confidence Mine	T. 17 S., R. 17 W., sec. (?)	
2	Boulevare & Johnson	Three Forks, Gila River (three plants).	T. 14 S., R. 14 W., sec. (?)	[1] 10,000

OREGON.

1	Portland Ry. L. & P. Co	Oregon City (Station B).	T. 2 S., R. 2 E., sec. —	9,640
2	do	Cazadero (Station G)	T. 5 S., R. 6 E., sec. 22	19,000
3	do	Silverton (Station J)	T. 7 S., R. 1 W. sec. —	333
4	do	River Mill (Station M)	T. 3 S., R. 4 E., sec. —	18,150
5	do	Bull Run (Station O)	T. 1 S., R. 5 E., sec. —	15,000
6	Pacific Power & Light Co	Walla Walla	T. 5 N., R. 36 E., sec. —	3,400
7	do	Tygh Valley (White River).	T. 4 S., R. 14 E., sec. 7	3,600
8	do	Hood River (two plants).	T. 2 N., R. 10 E., sec. —	630
9	Northwestern Gas & Electric Co.	South Fork Walla Walla River.	T. 4 N., R. 37 E., sec. —	2,700
10	City of Milton	Walla Walla River	T. 5 N., R. 36 E., sec. —	140
11	Idaho Railway Light & P. Co	Oxbow (Snake River)	T. 7 S., R. 48 E., sec. —	[1] 37,000
12	Grande Ronde Water Co	Minam River	T. 2 S., R. 41 E., sec. —	[1] 2,500
13	Eastern Oregon L. & P. Co	Mill Creek	T. 3 S., R. 40 E., sec. —	400
14	do	Fremont	T. 9 S., R. 35 E., sec. —	1,300
15	do	Rock Creek	T. 8 S., R. 38 E., sec. —	1,200
16	Eagle River Electric Power Co	Eagle River	T. 6 S., R. 43 E., sec. 34	1,600
18	Portland Railway L. & P. Co	Oak Grove and Three Links Creeks.	T. 5 S., R. 6 E., sec. —	[1] 20,000
19	N. E. Winnard		T. 24 S., R. 9 E., sec. 19	[1] 250
20	Walter MacKay	Santiam River	T. 11 S., R. 7 E., sec. —	[1] 15,000
21	M. J. Anderson	South Fork Coquille	T. 32 S., R. 11 W., sec. —	[1] 5,000
22	James Lindsey	Mill Creek	T. 22 S., R. 10 W., sec. —	[1] 3,500
23	California-Oregon Power Co	Gold Ray	T. 36 S., R. 2 W., sec. —	2,690
24	do	Prospect	T. 32 S., R. 3 E., sec. —	7,415
25	do	Klamath Falls	T. 38 S., R. 9 E., sec. —	1,500
26	Rock Creek Power & Transportation Co.		T. 8 S., R. 38 E., secs. 4-5	1,060
				183,008

UTAH.

			S. L. M.	
1	Utah Power & Light Co	Nunn plant	T. 5 S., R. 3 E., sec. 33	2,010
2	do	Olmstead	T. 6 S., R. 3 E., sec. 7	10,800
3	do	Narrows	T. 4 S., R. 1 W., sec. 15	1,300
4	do	Logan	T. 12 N., R. 1 E., sec. 36	3,000
5	do	Battle Creek	T. 5 S., R. 2 E., sec. 22	3,216
6	do	Santaquin	T. 10 S., R. 1 E., sec. 13	1,350
7	do	Snake Creek	T. 3 S., R. 4 E., sec. 21	1,600
8	do	Upper Mill Creek	T. 1 S., R. 2 E., sec. 27	500
9	do	Lower Mill Creek	T. 1 S., R. 1 E., sec. 36	2,800
10	do	Oakley	T. 1 S., R. 6 E., sec. 13	5,000
11	do	Murdock	T. 2 S., R. 5 E., sec. 32	3,600

[1] No machinery installed; capacity estimated.

UTAH—Continued.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower).
			S. L. M.	
12	Utah Light & Power Co	Apine	T. 4 S., R. 2 E., sec. 8	2,300
13	do	Upper American Fork	T. 4 S., R. 2 E., sec. 28	1,600
14	do	Lower American Fork	T. 4 S., R. 2 E., sec. 32	800
15	do	Riverdale	T. 5 N., R. 1 W., sec. 18	5,400
16	do	Whelon	T. 13 N., R. 2 W., sec. 27	10,200
17	do	Blacksmith Fork	T. 10 N., R. 1 E., sec. 11	4,000
18	do	Willard	T. 8 N., R. 2 W., sec. 23	600
19	Utah Light & Ry. Co	Stairs	T. 2 S., R. 2 E., sec. 20	2,100
20	do	Granite	T. 2 S., R. 1 E., sec. 25	4,000
21	do	Pioneer	T. 6 N., R. 1 W., sec. 22	4,000
22	do	Devils Gate	T. 5 N., R. 1 E., sec. 30	3,300
23	Beaver River Power Co	Beaver	T. 29 S., R. 6 W., sec. 27	805
24	do	Fish Creek	T. 27 S., R. 5 W., sec. 5	350
25	do	Salina	T. 21 S., R. 1 E., sec. 31	80
26	do	Manti	T. 18 S., R. 3 E., sec. 8	475
27	United States Reclamation Service.	Spanish Fork	T. 8 S., R. 3 E., sec. 33	1,600
28	Clark Electric Co	South Willow Creek	T. 3 S., R. 6 W., sec. —	525
29	do	Ophir Creek	T. 5 S., R. 4 W., sec. 28	400
30	do	Tooele Creek	T. 3 S., R. 4 W., sec —	350
31	Cedar City Light & Power Co	Cove Creek	T. 36 S., R. 11 W., sec. 13	125
32	Springville Electric Light Co	Hobble Creek	T. 8 S., R. 4 E., sec. 6	135
33	City of Brigham	Boxelder Creek	T. 9 N., R. 1 W., sec. 19	1,000
34	City of Logan		T. 12 N., R. 2 E., sec. 32	650
35	City of Heber		T. 3 S., R. 5 E., sec. 7	900
36	City of Ephraim	Cottonwood Creek	T. 17 S., R. 3 E., sec. 14	1,000
37	City of Hyrum	Blacksmith Fork	T. 10 N., R. 1 E., sec. 2	150
38	Utah Agricultural College		T. 12 N., R. 1 E., sec. 35	500
39	Davis County Light & Power Co.	Farmington	T. 3 N., R. 1 E., sec. 18	400
40	The Progress Co	Murray	T. 2 S., R. 1 E., sec. 7	100
41	do	do	T. 2 S., R. 1 E., sec. 3	100
42	do	do	T. 2 S., R. 1 E., sec. 23	200
43	Ogden-Portland Cement Co	Baker Creek	T. 10 N., R. 2 W., sec. —	230
44	Columbus Consolidated Mining Co.	Little Cottonwood	T. 3 S., R. 3 E., sec. 10	800
				84,351

WASHINGTON.

1	Puget Sound Traction, Light & Power Co.	North Fork Nooksack	T. 40 N., R. 8 E., sec. 31	3,200
2	Superior Portland Cement Co	Bear Creek	T. 36 N., R. 8 E., sec. 11	1,800
3	Olympic Power Co	Elwha River	T. 30 N., R. 7 W., sec. 15	9,600
4	do	Snoqualmie Falls	T. 24 N., R. 8 E., sec. 20	31,000
5	do	Dieringer	T. 20 N., R. 5 E., sec. 7	36,000
6	Olympia Light & Power Co	Deschutes River	T. 17 N., R. 2 W., sec. —	1,600
7	Puget Sound Traction, Light & Power Co.	Electron	T. 17 N., R. 5 E., sec. 4	30,000
8	City of Seattle	Cedar River	T. 22 N., R. 8 E., sec. 4	20,800
9	City of Tacoma	Nisqually River	T. 16 N., R. 4 E., sec. 32	32,000
10	Washington-Oregon Corporation	Kalama	T. 6 N., R. 1 E., sec. 18	1,000
11	Northwestern Electric Co	White Salmon	T. 3 N., R. 10 E., sec. 14	20,000
12	City of Ellensburg	Yakima River	T. 18 N., R. 18 E., sec. 32	1,660
13	Great Northern R. R	Wenatchee River	T. 24 N., R. 17 E., sec. 10	8,000
14	Wenatchee Valley Gas & Electric Co.	Dryden	T. 24 N., R. 18 E., sec. 26	2,380
15	Puget Sound L. & P. Co	Quiltoc	T. 22 N., R. 20 E., sec. 34	350
16	do	Entiat	T. 25 N., R. 21 E., sec. 18	2,000
17	Methow Power Co	Pateros	T. 30 N., R. 23 E., sec. 34	250
18	Palmer Mountain Tunnel Co	Toats Coulee	T. 39 N., R. 25 E., sec. 35	700
19	Stevens County Electric Co	Coalville	T. 36 N., R. 38 E., sec. 20	720
20	Inland Portland Cement Co	Sullivan Creek	T. 39 N., R. 43 E., sec. 22	4,730
21	Lewiston-Clarkston Co	Asotin Creek	T. 10 N., R. 44 E., sec. 20	2,560
22	Spokane & Inland Empire Water Co.	Nine Mile (Spokane River).	T. 26 N., R. 42 E., sec. 6	22,000
23	Washington Water Power Co	Long Lake	T. 27 N., R. 39 E., sec. 13	90,000
24	do	Little Falls	T. 27 N., R. 39 E., sec. 20	36,000
25	do	Spokane River	T. 25 N., R. 43 E., sec. 18	15,800
26	City of Spokane	do	T. 25 N., R. 43 E., sec. 11	3,800

[1] No machinery installed; capacity estimated.

WASHINGTON—Continued.

No.	Owner.	Designation of plant.	Location.	Capacity of installed machinery (horsepower.
27	Pacific Power & Light Co	Tucannon River	T. 11 N., R. 41 E., sec. 19	300
28	do	Husum (White Salmon River).	T. 4 N., R. 10 E., sec. —	500
29	do	Blockhouse	T. 4 N., R. 15 E., sec. —	200
30	do	Waitsburg (Touchet River).	T. 9 N., R. 38 E., sec. —	200
31	do	Dayton	T. 10 N., R. 39 E., sec. —	200
32	do	Priest Rapids	T. 13 N., R. 23 E., sec. 2	3,000
33	do	North Yakima	T. 13 N., R. 18 E., sec. 23	750
34	do	Naches	T. 14 N., R. 17 E., sec. 13	10,000
35	do	Prosser	T. 8 N., R. 24 E., sec. 2	720
36	Valley Development Co		T. 14 N., R. 10 W., sec. —	[1] 30,000
37	Sampson & Ash		T. 5 N., R. 7 E., sec. 14	[1] 2,500
38	Henry W. Coe		T. 9 N., R. 4 E., sec. —	[1] 7,000
39	Washington Ry. & Electric Co	Sultan River (nine plants).	Ts. 28+29 N., Rs. 8+9 E	[1] 80,100
40	Skagit Power Co	(Two plants)	Ts. 35+36 N., R. 11 E	[1] 27,600
41	Great Northern Ry	Clealum	T. 24 N., R. 17 E., sec. —	250
42	Kittitas Ry. & Power Co		T. 22 N., R. 14 E., sec. —	[1] 2,500
43	International Power & Manufacturing Co.	"Z" Canyon (Clark Fork River).	T. 40 N., R. 43 E., sec. 10	[1] 200,000
44	(a) Okanogan Valley Power Co.; (b) Similkameen Power Co.; (c) East & West Okanogan Valley Irrigation District.	Similkameen River	T. 40 N., R. 26 E	[1] 2,400
45	Similkameen Power Co	do	T. 40 N., R. 26 E	800
				746,840

WYOMING.

			Sixth P. M.	
1	P. B. Dykeman	Popo Agie River	T. 32 N., R. 101 W., sec. —	[1] 750
2	Toponce, Alexander	John Days Fork	T. 37 N., R. 118 W., sec. 23	[1] 1,000
3	Seminole Power Co	North Platte River	T. 26 N., R. 84 W., sec. 27	[1] 50,000
4	Colorado & Wyoming Irrigation & Power Co.	do	T. 13 N., R. 80 W., sec. —	[1] 10,000
5	Campbell & Perkins	Goose Creek	T. 55 N., R. 86 W., sec. 35	7,000
			Wind R. M.	
6	Shoshone Power & Irrigation Co.	Big Horn River	T. 5 N., R. 6 E., sec. —	15,000
				83,840

SUMMARY BY STATES.

State.	Number of plants.	Aggregate installed and estimated capacity.
		Horsepower.
Arizona	3	16,100
California	111	1,061,500
Colorado	62	121,400
Idaho	38	221,300
Montana	26	357,100
Nevada	8	63,600
New Mexico	2	10,000
Oregon	25	183,000
Utah	44	84,400
Washington	45	746,800
Wyoming	6	83,800
	370	2,940,000

[1] No machinery installed; capacity estimated.

WATER POWER AVAILABLE IN POWER-SITE RESERVES OF THE WESTERN UNITED STATES.

The accompanying tables show the estimated capacity of machinery that may reasonably be expected to be installed in the development of the water-power possibilities of power-site reserves outside of national forests. It is estimated by officials of the Forest Service that about 12,000,000 horsepower can be developed on the national forests on the basis of low water conditions, with consideration, however, to some storage sites. It is roughly estimated, therefore, that installation of water wheels aggregating 18,000,000 horsepower capacity may reasonably be made on power sites of the public domain on the basis of low-water conditions, and that this may be increased to 29,000,000 horsepower if all storage facilities are utilized. In addition, there is, of course, a large amount of water power that can be developed without utilizing lands of the public domain.

In estimating the power possibilities of the power-site reserves, it was assumed that the capacity of installed water wheels on any stream would be 88 per cent of the theoretical power of the stream within the limits of the reserves during the average month of minimum flow. Storage was estimated on the basis of known conditions where possible. In the absence of data it was assumed that the installed capacity of water wheels on any stream with developed storage would be 70 per cent of the theoretical power of the stream within the limits of the reserves during a year of average flow.

It must clearly understood that these estimates have been hastily prepared on the basis of meager data, and no claim as to their accuracy is made. They represent merely the best approximation that can uow be formulated.

State.	Stream.	Minimum horse-power.	Horsepower with storage.
Arizona	Little Colorado River	1,000	2,600
	Bill Williams River	1,000	12,000
	Gila River	1,500	4,500
	San Francisco River	200	1,200
	Salt River	18,000	60,000
	Hassayampa River	550	2,600
	Approximate total	22,000	83,000
Arizona-Nevada	Colorado River	44,000	100,000
California	Sacramento River	43,250	55,500
	Pit River	400,000	600,000
	Fall River	52,000	60,000
	McCloud River	28,000	40,000
	Cow Creek Basin	6,800	19,200
	Bear Creek	1,800	2,900
	Battle Creek Basin	43,000	75,000
	Mill Creek	5,000	8,000
	Deer Creek	6,000	9,500
	North Fork Feather River	20,000	120,000
	Middle Fork Feather River	10,000	25,000
	South Fork Feather River	400	1,600
	North Fork of Yuba River	3,700	5,000
	South Fork of Yuba River	1,000	24,000
	Yuba River	31,000	72,000
	North Fork of American River	8,500	15,000
	Middle Fork of American River	3,300	12,000
	South Fork of American River	10,000	32,000
	Cache Creek	2,400	25,000
	San Joaquin River	10,000	30,000
	Kings River	7,000	24,000
	Merced River	7,000	13,000
	Tuolumne River	7,500	48,000
	Stanislaus River	5,000	40,000
	Mokelumne River	26,500	200,000
	Cosumnes River Basin	150	25,000
	Eel River tributaries	2,800	25,800
	Eel River	1,000	5,500
	Mad River	2,000	20,000
	Klamath River	60,000	105,000
	Fall Creek	4,300	8,000
	Shasta River	7,000	17,000
	Trinity River	1,400	6,000
	Susan River	450	4,500
	West Fork Carson River	1,200	4,800

State.	Stream.	Minimum horse-power.	Horsepower with storage.
California	East Fork Carson River	1,000	4,900
	West Walker River	750	2,400
	East Walker River and tributaries	1,300	16,800
	Rock Creek	2,000	4,000
	Owens River	8,500	10,000
	Bishop Creek	2,000	2,500
	Little Pine Creek	350	700
	Approximate total	835,000	1,814,000
Colorado	North Platte River	2,000	14,000
	Clear Creek Basin	4,700	8,000
	South Boulder Creek	2,100	6,700
	Left Hand Creek	980	3,080
	St. Vrain Creek Basin	2,800	13,600
	Big Thompson Creek	6,000	40,000
	Cache La Poudre River	3,000	8,000
	South Platte River	750	2,400
	Arkansas River	75,000	160,000
	Upper forks of Arkansas River	2,100	3,900
	Grape Creek	750	20,000
	Green River	5,000	16,000
	Yampa River	7,600	35,000
	White River Basin	13,500	22,000
	Grand River	70,000	250,000
	William s Fork	2,000	3,500
	Blue River	11,500	23,000
	Eagle River	41,000	80,000
	Gunnison River	32,000	64,000
	Gunnison River tributaries	18,500	42,500
	Dolores River	980	1,500
	Animas River	7,500	13,500
	Approximate total	309,000	830,000
Idaho	Bear River	15,000	81,500
	Clark Fork River	5,000	6,000
	Kootenai River	3,800	4,000
	South Fork of Coeur d'Alene River	2,500	5,200
	St. Joe River Basin	19,500	25,500
	Snake River	410,000	570,000
	Blackfoot River	3,000	20,000
	Bannock Creek	1,000	1,300
	Bruneau River	3,000	5,000
	Boise River	7,500	10,000
	Payette River	35,000	85,000
	Payette River tributaries	100,000	240,000
	Salmon River	600,000	800,000
	Little Salmon River	4,000	30,000
	Crane Creek	.....	3,000
	Clearwater River	70,000	95,000
	Clearwater River tributaries	70,000	100,000
	Approximate total	1,349,000	2,172,000
Idaho-Oregon	Snake River	300,000	350,000
Montana	Madison River	135,000	180,000
	Jefferson River tributaries	1,700	11,000
	Missouri River	60,000	85,000
	Birch Creek	4,000	5,000
	St. Mary River tributaries	1,300	4,000
	Judith River	12,000	15,000
	Yellowstone River	16,000	30,000
	Boulder River	400	800
	Stillwater River	7,500	9,500
	Bighorn River	35,000	50,000
	Kootenai River	3,500	4,000
	Hell Gate River	23,000	28,000
	Big Blackfoot River	9,500	15,500
	West Fork of Bitterroot River	5,400	7,000
	Clark Fork River	175,000	295,000
	Flathead River	42,000	105,000
	Flathead River tributaries	5,500	9,500
	Approximate total	537,000	854,000
Nevada	East Carson River	750	3,600
	West Walker River	400	1,200
	East Walker River	7,000	9,800
	Salmon Falls River	300	1,100
	Approximate total	8,500	15,000

State.	Stream.	Minimum horse-power.	Horsepower with storage.
New Mexico	San Juan River	5,500	18,000
	Gila River	450	1,300
	Approximate total	6,000	19,000
Oregon	Owyhee River	8,500	100,000
	Malheur River Basin	1,100	1,700
	Grande Ronde River	27,000	65,000
	Wallowa River	4,500	7,500
	Walla Walla River tributaries	4,500	5,500
	John Day River	18,000	170,000
	John Day River tributaries	6,500	35,000
	Deschutes River	700,000	750,000
	Crooked River	29,000	29,000
	Metolius River	170,000	170,000
	Whitewater Creek	4,500	5,800
	Warm Springs Creek	28,000	35,000
	Mill Creek	9,000	10,000
	Shitike Creek	15,000	18,000
	Beaver Creek	2,500	3,000
	White River	10,000	15,000
	East Fork of Hood River	9,000	12,000
	McKenzie River	53,500	75,000
	Molalla River	500	1,200
	Nehalem River	500	2,000
	Siletz River	850	3,500
	Umqua River	2,000	4,000
	Umqua River tributaries	1,700	5,500
	Rogue River	15,000	25,000
	Rogue River tributaries	1,700	2,000
	Williamson River	1,700	2,000
	Sycan River	880	4,000
	Klamath River	120,000	210,000
	Deep Creek	460	1,500
	Harney Lake Basin	5,000	7,000
	Approximate total	1,250,000	1,773,000
Utah	Green River	120,000	250,000
	Ashley Creek	1,800	3,000
	Duchesne River	15,000	20,000
	Duchesne River tributaries	5,000	6,000
	White River	10,000	16,000
	Huntington Creek	2,400	5,000
	Grand River	22,000	70,000
	Dolores River	1,500	2,500
	Fremont River	12,500	15,000
	Colorado River	125,000	240,000
	San Juan River	24,000	50,000
	Blacksmith Fork Creek	3,500	4,500
	Weber River	3,000	6,000
	American Fork	400	800
	Provo River	4,500	6,500
	Beaver River	850	1,500
	Approximate total	352,000	697,000
Washington	Clark Fork River	190,000	390,000
	Columbia River	1,480,000	1,750,000
	Little Pend Oreille	900	1,500
	Hall Creek	750	1,000
	Spokane River	34,000	95,000
	San Poil River	2,800	4,200
	Nespelem River	1,100	2,800
	Similkameen River	9,400	13,000
	Methow River	22,000	30,000
	Yakima River	8,000	10,000
	Naches River	1,500	2,400
	Grande Ronde River	30,000	72,000
	Klickitat River	157,000	220,000
	Klickitat River tributaries	30,000	35,000
	White Salmon River	97,000	100,000
	Lewis River	50,000	62,000
	Toutle River Basin	3,200	7,000
	Soleduck River	500	1,200
	South Fork Snoqualmie River	11,000	13,000
	South Fork Skykomish River	2,200	3,600
	Sauk River	2,000	3,200
	Deer Creek	300	1,200
	Illabot Creek	400	1,500
	South Fork Nooksak River	4,000	5,000
	Approximate total	2,144,000	2,825,000

State.	Stream.	Minimum horse-power.	Horse-power with storage.
Wyoming	Bighorn River	28,000	36,000
	Wind River Basin	13,000	17,500
	Owl Creek	5,000	7,500
	Shoshone River tributaries	3,500	6,000
	Shoshone River	3,700	10,000
	North Platte River	7,500	30,000
	Green River	3,000	6,000
	Green River tributaries	650	6,500
	Approximate total	64,000	120,000

SUMMARY BY STATES.

Arizona	22,000	83,000
Arizona-Nevada	44,000	100,000
California	835,000	1,814,000
Colorado	309,000	830,000
Idaho	1,349,000	2,172,000
Idaho-Oregon	300,000	350,000
Montana	537,000	854,000
Nevada	8,500	15,000
New Mexico	6,000	19,000
Oregon	1,250,000	1,773,000
Utah	352,000	697,000
Washington	2,144,000	2,825,000
Wyoming	64,000	120,000
Total	7,220,000	11,652,000

The Control of Water Power Development in the Western States.

This statement is a discussion of the ownership of the water power developed in the 11 Western States and of the affiliations of the corporations by which the great bulk of the power is controlled. In its preparation general works of reference dealing with such topics have been freely consulted, especially Moody's Manual of Railroads and Corporation Securities for 1913. Files of the New York Commercial and Financial Chronicle have been reviewed in order to secure the most recent information, as well as for many details in connection with the stock interests of holding companies. Walker's Manual of California Securities has been relied upon for the field covered. Directories of directors of New York, Boston, Philadelphia, and Chicago have also yielded information as to the corporate connections of individuals.

The information regarding developed water power is, however, largely taken from original data in the files of the Geological Survey and of the Forest Service of the Department of Agriculture.

This statement may in a sense be regarded as a continuation of the report of the Commissioner of Corporations of March 14, 1912, on "Water-power development in the United States," in so far as it relates to the concentration of ownership and control in the Western States. The period which has elapsed since this report was issued has, however, witnessed marked changes in at least two particulars.

The increase in developed water power in the West has not only been enormous, but the tendency toward concentration into large units has advanced to the stage where the entire territory is now practically divided among the larger companies. The average amount of power developed by the 28 companies controlling 90 per cent of the developed power in the West is now 50,000 horsepower, while six companies control over 100,000 horsepower each.

The increase in the number and importance of public-service securities holding companies is, however, the most striking development in water-power finance during recent years. While several of these companies—the Electric Bond & Share Co., the Electrical Securities Corporation, and the United Electric Securities Co.—were active in 1912, and were then noted as "General Electric companies," these appear to have been but the forerunners of a horde of such corporations whose names are characterized by bewildering permutations of a few adjectives and nouns. The enormous capitalization of these companies and their large holdings of the securities of operating companies give to their

development and activities the utmost importance. The affiliations of a number of these holding companies are discussed in the next section of the report. In but few instances, however, can a direct answer be given to the question: Who owns the holding company?

The preparation of this statement is to be credited to Messrs. H. Stabler and W. B. Heroy, of the Geological Survey.

HOLDING COMPANIES.

In connection with the water-power and public-utility business an elaborate system of stock holding has been developed. The stocks and bonds of operating companies are offered to the public for investment, but a controlling interest is usually retained in some way by a holding company. This control may be effected by the ownership of a majority of the stock; by the ownership of a portion of the stock together with valid proxies sufficient to give a majority vote at stockholders' meetings; by the ownership of a large though less than majority stock interest in the company, combined with the scattering of the remaining shares among numerous small and unassociated holders; by the creation of a voting trust extending over a period of years; by agreement with banking and financial houses through which the securities of the operating company are marketed and upon which it may be dependent for financing.

In many cases the method of control exercised is publicly known, the amount of stock held being published in connection with the reports of the holding companies. Frequently also statements are made that a holding company controls an operating company, but the means and measure of control are not stated. Many of the holding companies which are large owners of the securities of water-power and other public-service corporations, however, confine published reports of their activities to statements of the amount of securities held, without any indication of the identity of the operating companies over which control may be so exercised.

In the study of the intercorporate relations of companies in the public-service field it has been noted that many of the holding companies which, so far as published information indicates, have no relations with any particular operating companies, have many directors in common with other holding companies whose affiliations are more definitely known. While the fact that one or more names appear on the directorate of several holding companies may not be conclusive evidence that the same general financial interests are concerned, yet when the relation is repeated in so many instances that a practically complete network of holding companies is established the evidence of community of interest becomes very strong. To make this fact apparent a list of all the important companies of this class was compiled. From it were eliminated all companies which were purely eastern, central, and middle western in their relationships. A few smaller companies and some which were practically identical in directorates with others were eliminated. The result is a list of 24 holding companies. The total number of directors of these 24 holding companies is 227. Of these, 50 names occur on more than one directorate, and these 50 men together hold 135 directors' positions out of the total of 312, or about 43 per cent. In other words, if the 24 companies were considered as together forming one large corporation in which each man had as many votes as he now has in the separate companies, these 50 men would have but little short of a majority. The majority could easily be attained by the inclusion of certain others listed who because of their connection with banking firms and operating companies are allied to this group. Certain men are very conspicuous because of the number and importance of the companies with which they are connected. A. W. Burchard and S. Z. Mitchell are each connected with seven holding companies; Breed, Childs, and Hemphill with five; and Bedford, Paine, Strong, and Williams with four. Each of these, as well as 20 others listed, is connected in an important way with the General Electric Co. and its acknowledged subsidiary holding companies. In addition, a number of the others are connected closely with General Electric interests through other relationships, especially through banking houses, as will be shown below.

The following holding companies are subsidiaries or allies of the General Electric Co.: Electric Bond & Share Co., American Gas & Electric Co., Electrical Securities Corporation, Utah Securities Co., American Power & Light Co., and Public Utilities Corporation. These companies and their directors are indicated in heavy-faced type in the following list, which includes directors on more than one holding company.

Interlocking directors of waterpower holding corporations.

Director.	Holding corporation.																							
	General Electric Co.	Electric Bond & Share Co.	American Gas & Electric Co.	Electrical Securities Corporation.	Utah Securities Co.	American Power & Light Co.	Public Utilities Corporation.	Securities Corporation General.	United Electric Securities Co.	Electric Corporation.	Electrical Utilities Corporation.	Electric Investment Corporation.	Federal Utilities (Inc.).	United Utilities Co.	American Utilities Co.	Public Securities Co.	Electric Properties Co.	United Gas & Electric Corporation.	Federal Light & Traction Co.	American Light & Traction Co.	Illuminating & Power Securities Corporation.	United Railways Investment Co.	Railway & Light Securities Co.	Public Service Investment Co.
Abbott, Gordon	★			★					★															
Adams, C. F., 2d									*	*														
Ames, Oliver	★									★														
Bacon, G. W																		*				*		
Bedford, A. C		★			★	★					★													
Bertron, S. R		★																★						
Bonbright, Irving W					★									★										
Bonbright, Wm. P														*	*									
Bradlee, H. G																							*	*
Breed, R. E			★		★	★						★							★					
Brown, F. Q																	*			*				
Burchard, A. W	V. P.		★			★					★	★	★						★					
Byllesby, H. M							★				★													
Campbell, James					★															★				
Candee, De Forest												*	*											
Childs, S. W							★				★			★	★						★			
Claflin, G. E					★	★																		
Clough, M. P							★														★			
Clough, W. S							★														★			
Cohn, C. A	★	★		★																				
Colgate, R. R																			*	*				
Farrar, F. A		★	★			★																		
Fisher, W. F											*			*										
Galliver, G. A												*	*											
Hamilton, C. P														*							*			
Hemphill, A. J		★			★			★										★				★		
Herrick, P. W													*						*					
Insull, Samuel																*		*						
Joyce, W. B																		*		*		*		
Lane, Wm. C		★		★																				
Mason, C. H				★					★															

McRoberts, Samuel													*					*					
Mitchell, S. Z.		★	★		★	★		★			★						★						
Morse, R. C				★			★													★			
Paine, R. T., 2d	★	★							★													★	
Perry, M. J.	★	★		★																			
Robb, Russell																						*	*
Stehr, F. W.														*	*					*			
Stone, C. A																						*	*
Strauss, Frederick		★			★																		
Strong, Benj., jr	★	★			★														★				
Stroud, Morris W			★												★								
Sunny, B. E	★															★							
Tracy, E. B														*						*			
Wadsworth, Eliot																						*	*
Walcott, F. C						★	★							★									
Webster, E. S																						*	*
Wehrhane, H. H			★			★																	
Wiggin, A. H													*				*	*					
Williams, Harrison			★									★	★						★				

With the sole exception of the Electric Properties Co. and the Public Service Investment Co., some director of one of the General Electric subsidiaries is found on each company. The Electric Properties Co. is the holding company of Westinghouse, Church, Kerr & Co., and the Public Service Investment Co. is the holding company for Stone and Webster. The relations of these companies will be discussed below.

In order that the tremendous concentration of capital involved in this closely connected group of holding companies may be indicated, the essential facts regarding capitalization and holdings of securities for each company are indicated in the following statements. Additional information is also given concerning the purposes for which they are stated to be organized, their officers, and the connection of their officers with operating power companies in the area under discussion.

A. General Electric Co.

Incorporated in New York under special charter to manufacture all kinds of electrical apparatus and appliances; owns the entire common stock of the Electrical Securities Corporation and the Electric Bond & Share Co.

Capital stock.—Authorized, $105,000,000; outstanding, $101,314,900.

Transfer agents.—Farmers' Loan & Trust Co., New York, and American Trust Co., Boston.

Registrars.—Guaranty Trust Co., New York, and Old Colony Trust Co., Boston.

Assets.—December 31, 1913, approximately $144,000,000, including stocks and bonds of its subsidiaries of $17,574,884 and stocks and bonds of other companies of $8,389,473.

Main office.—Schenectady, N. Y.

New York office.—Hudson Terminal Building.

Officers.—President, E. W. Rice, jr.; vice presidents, J. R. Lovejoy, A. W. Burchard, J. R. McKee, O. D. Young; secretary, M. F. Westover; treasurer, H. W. Darling; assistant treasurer, R. S. Murray; assistant secretary, I. S. Keeler; second assistant secretary, J. F. Zoller; general auditor, S. L. Whitestone; assistant general auditor, John Riley. Directors: C. A. Coffin, chairman; Gordon Abbott, Oliver Ames, George P. Gardner, H. L. Higginson, Robert Treat Paine, 2d; Philip Stockton, Marsden J. Perry, S. L. Schoonmaker, Charles Steele, E. W. Rice, jr., M. F. Westover, B. E. Sunny, Benjamin Strong, jr.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

Philip Stockton: Puget Sound Traction, Light & Power Co.

C. A. Coffin: Montana Power Co.

A. W. Burchard: Western Power Co., Great Western Power Co.

J. R. McKee: Colorado Power Co.

B. Electric Bond and Share Co.

Incorporated in New York with power to purchase bonds, stocks, or other forms of securities resulting from electrical and other developments, such as electric street railways, electric light and power, gas, and water plants. The company furnishes the necessary capital and manages consolidations and reorganizations of properties. The entire common stock is owned by the General Electric Co.

Capital stock.—Authorized and outstanding, $5,000,000 common and $5,000,000 preferred. No bonds.

Registrar.—Guaranty Trust Co., New York.

Assets.—December 31, 1912, approximately $15,900,000, including $6,371,313 investment stocks, $2,710,790 investment bonds and coupon notes, and $3,627,276 syndicate accounts.

Office.—Schnectady, N. Y.

New York Office.—71 Broadway.

Officers.—President, S. Z. Mitchell; vice presidents, Fred A. Farrar, F. G. Sykes, G. E. Claflin; treasurer and assistant secretary, E. W. Hill; secretary and assistant treasurer, H. M. Francis; assistant treasurer and assistant secretary, A. E. Smith; assistant secretary, G. C. Hollister. Executive committee: Marsden J. Perry, A. C. Bedford, C. A. Coffin, S. Z. Mitchell, Benjamin Strong, jr. Directors: Marsden J. Perry (chairman), A. C. Bedford, S. R. Bertron, C. A. Coffin, Frederick Farrar, Alexander J. Hemphill, E. W. Hill, William

C. Lane, S. Z. Mitchell, Felix Rosen, Frederick Strauss, Benjamin Strong, jr., R. T. Paine, 2d, and P. L. Saltonstall.

Officers connected with operating companies.—The following officers are directors of operating companies in the western States as indicated:

S. Z. Mitchell: Colorado Power Co., Montana Power Co., Great Falls Power Co., Helena Railway & Light Co., Utah Power and Light Co., Pacific Power & Light Co., Puget Sound Electric Railway, Tacoma Railway & Power Co., Sierra and San Francisco Power Co., Portland Gas & Coke Co.

F. G. Sykes: Pacific Power & Light Co., Portland Gas & Coke Co.

G. E. Claflin: Utah Power & Light Co., Pacific Power & Light Co.

E. W. Hill: Pacific Power & Light Co., Portland Gas & Coke Co.

A. E. Smith: Colorado Power Co., Utah Power & Light Co.

A. C. Bedford: Colorado Power Co., Western Power Co., Great Western Power Co., Portland Railway, Light & Power Co.

C. A. Coffin: Montana Power Co.

A. J. Hemphill: California Railway & Power Co.

P. L. Saltonstall: Sierra and San Francisco Power Co.

Frederick Strauss: Montana Power Co., Great Falls Power Co., Portland Railway, Light & Power Co., Portland Railways Co.

C. American Gas & Electric Co.

Incorporated in New York; a majority of the stock is held by Electric Bond & Share Co.

Capital stock.—Authorized. $3,500,000 common and $3,500,000 preferred; outstanding, $3,000,000 common and $1,661,500 preferred.

Trasfer agent.—Guaranty Trust Co., New York.

Registrar.—Columbia-Knickerbocker Trust Co., New York.

Bonded debt.—$6,282,000.

Assets.—In 1912, approximately $13,200,000, including $10,053,834 securities deposited to secure bonded debt and $788,683 stocks and bonds owned.

Office.—30 Church Street, New York.

Officers.—President, R. E. Breed; vice presidents, G. N. Tidd, M. B. Feldman, Adam Gschwindt; secretary and treasurer, F. B. Ball; assistant secretaries and assistant treasurers, F. P. Hunter, H. L. Finley. Directors: S. Z. Mitchell (chairman), Harrison Williams, A. W. Burchard, A. W. Paige, H. H. Dean, W. E. Hitchcock, George Breed, D. B. C. Catherwood, F. P. Hunter, H. L. Doherty, R. E. Breed, F. A. Farrar, H. H. Wehrhane, M. J. Warner, Morris W. Stroud.

Officers connected with operating companies.—The following officers are directors of operating companies in the western States, as indicated:

R. E. Breed: Utah Power & Light Co.

S. Z. Mitchell: See Electric Bond & Share Co.

A. W. Burchard: See Electric Bond & Share Co.

H. L. Doherty: Summit County Power Co.

H. H. Wehrhane: Northern Colorado Power Co.

D. Electrical Securities Corporation.

Incorporated in New York; is owner of mortgage bonds of electric railway, electric light, and power companies; and is empowered by its charter to acquire other bonds of similar companies. Entire common stock owned by General Electric Co.

Capital stock.—$2,500,000 common; $1,000,000 preferred.

Transfer agents.—Harvey Fisk & Sons, New York.

Registrar.—United States Mortgage & Trust Co., New York.

Bonded debt.—$3,597,000 on December 31, 1912.

Assets.—December 31, 1912, approximately $8,400,000, including over $3,800,000 of mortgage bonds pledged and $2,695,102 of investment securities.

Main office.—Schenectady, N. Y.

New York office.—62 Cedar Street.

Officers.—President, George R. Sheldon; vice president, C. N. Mason; secretary and treasurer, W. T. Kaufman; assistant secretary and assistant treasurer, H. M. Francis; second assistant secretary, G. C. Hollister. Directors: Gordon Abbott, R. C. Morse, A. A. Tilney, W. M. Barnum, C. A. Coffin, Pliny Fisk, Wilbur C. Fisk, O. L. Gubelman, W. T. Kaufman, W. C. Lane, C. N.

Mason, G. R. Sheldon, F. W. Walz, H. Winterfelt, E. K. Boisot, H. W. Darling, M. B. Johnson, Marsden J. Perry, J. G. Schmidlapp, E. T. Stotesbury, A. Poniatowski.

Officers connected with operating companies.—The following officers are directors of operating companies in the western States, as indicated:

C. A. Coffin: See General Electric Co.

J. G. Schmidlapp: Montana Power Co.

E. Utah Securities Corporation.

Incorporated in Virginia. (Commercial and Financial Chronicle states: "This company has been organized by a syndicate under the leadership of the Electric Bond & Share Co. and Hayden, Stone & Co.")

Capital stock.—Authorized, $30,000,000; outstanding, $27,500,000. Collateral trust notes, $30,000,000 authorized; $27,500,000 subscribed for.

Trustee.—Guaranty Trust Co., New York.

Office.—71 Broadway, New York.

Officers.—President, S. Z. Mitchell; vice presidents, D. C. Jackling, W. S. McCornick, G. E. Claflin, G. M. Dahl; secretary and treasurer, A. E. Smith; assistant secretary and assistant treasurer, E. P. Summerson. Executive committee: James Campbell, Charles Hayden, J. R. Nutt, S. Z. Mitchell, R. E. Breed, D. C. Jackling. Directors: A. C. Bedford, Irving Bonbright, R. E. Breed, James Campbell, G. E. Claflin, G. M. Dahl, Alexander J. Hemphill, S. Z. Mitchell, J. D. Mortimer, Frederick Strauss, Benjamin Strong, jr., Charles Hayden, D. C. Jackling, James Mitchell, J. R. Nutt. Voting trustees: R. E. Breed, James Campbell, Charles Hayden, S. Z. Mitchell, J. R. Nutt.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

S. Z. Mitchell: See Electric Bond & Share Co.

D. C. Jackling: Utah Power & Light Co.

W. S. McCornick: Utah Power & Light Co., Utah Light & Railway Co.

G. E. Claflin: Utah Power & Light Co., Pacific Power and Light Co.

G. M. Dahl: Utah Power & Light Co.

A. E. Smith: See Electric Bond & Share Co.

James Campbell: Utah Power & Light Co.

Charles Hayden: Sierra Pacific Electric Co., Utah Power & Light Co.

J. R. Nutt: Utah Power & Light Co.

R. E. Breed: See American Gas & Electric Co.

A. C. Bedford: See Electric Bond & Share Co.

Irving Bonbright: See United Utilities Co.

Alexander Hemphill: See Electric Bond & Share Co.

J. D. Mortimer: American Waterworks & Electric Co.

Frederick Strauss: See Electric Bond & Share Co.

F. American Power & Light Co.

Incorporated in Maine as a holding company for light, heat, power, electric, and gas companies; organized by the Electric Bond & Share Co., of New York, and controlled by interests closely identified with that company. The companies controlled operate in Kansas, Washington, Oregon, and Texas.

Capital stock.—Authorized, $10,000,000 common; $5,000,000 preferred. Outstanding, $5,631,400 common; $3,106,300 preferred.

Transfer agent.—Registrar & Transfer Co., Jersey City, N. J.

Registrar.—Corporation Trust Co. of New Jersey, Jersey City, N. J.

Convertible notes.—$2,200,000.

Assets.—Approximately $12,800,000, including $9,851,830 securities owned.

General office.—71 Broadway, New York.

Officers.—President, F. G. Sykes; vice presidents, G. E. Claflin, R. J. McClelland, E. W. Hill, A. S. Grenier, Guy W. Talbot; secretary and treasurer, M. H. Arning; assistant secretary and assistant treasurer, E. P. Summerson. Voting trustees: S. Z. Mitchell, A. C. Bedford, S. W. Childs. Directors: A. C. Bedford, R. E. Breed, A. W. Burchard, G. E. Claflin, F. A. Farrar, S. Z. Mitchell, F. G. Sykes, F. C. Walcott, Henry H. Wehrhane, H. P. Wright.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

F. G. Sykes: See Electric Bond & Share Co.
G. E. Claflin: See Electric Bond & Share Co.; Utah Securities Corporation.
E. W. Hill: See Electric Bond & Share Co.
A. S. Grenier: Pacific Power & Light Co.
Guy W. Talbot: Pacific Power & Light Co.
M. H. Arning. Pacific Power & Light Co.
A. C. Bedford: See Electric Bond & Share Co.
R. E. Breed: See American Gas & Electric Co.
A. W. Burchard: See General Electric Co.
S. Z. Mitchell: See Electric Bond & Share Co.
F. C. Walcott: Colorado Power Co.
H. H. Wehrhane: Northern Colorado Power Co.

G. Public Utilities Corporation.

Incorporated in Maine by interests closely allied with the General Electric Co., to purchase securities of companies which operate power, light, gas, and street railway properties.

Capital stock.—Authorized and outstanding $1,000,000 common; $500,000 preferred. Stock transferred at company's office. Notes: Two issues of $500,000 each.

Trustee.—Old Colony Trust Co., Boston.

General office.—19 Congress Street, Boston.

Corporate office.—Portland, Me.

Officers.—President, M. P. Clough; vice president, R. C. Morse; secretary and treasurer, W. F. Pope; directors, M. P. Clough, R. C. Morse, W. F. Pope, C. P. Hamilton, S. W. Childs, F. C. Walcott, W. S. Clough, H. M. Byllesby.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

F. C. Walcott: Colorado Power Co.
H. M. Byllesby: Standard Gas & Electric Co., Northern Idaho & Montana Power Co., San Diego Consolidated Gas & Electric Co., Western States Gas & Electric Co.

H. The Securities Corporation General.

Incorporated in Virginia with broad powers as a holding company, investing and banking concern; conducts the business of a finance and investment company, buying and selling and dealing in securities, but chiefly of public-servce corportions; participates in security underwriting and financing public-service propositions. In April, 1913, its capital was invested in over 30 different corporations.

Capital stock.—Authorized, $5,000,000 common; $5,000,000 preferred. Outstanding, April 1, 1913, $2,440,625 common, and $2,075,000 preferred.

Transfer agents.—Commercial Trust Co., Philadelphia, and Guaranty Trust Co., New York.

Registrars.—Real Estate Trust Co., Philadelphia, and Bankers' Trust Co., New York.

Assets.—March 31, 1913, approximately $2,000,000, including $1,642,526 of stocks and bonds of other companies.

General office.—Philadelphia, 1338 Chestnut Street.

New York office.—111 Broadway.

Officers.—President, P. M. Chandler; vice president, W. H. Sharp; vice president, George W. Robertson; secretary and treasurer, J. K. Trimble; directors, Caldwell Hardy, Alex. J. Hemphill, Howard A. Loeb, S. Z. Mitchell, Fergus Reid, George W. Robertson, F. W. Roebling, jr., W. H. Sharp, Edw. D. Toland, J. G. White, P. M. Chandler, F. T. Chandler.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States, as indicated:

A. J. Hemphill: California Railway & Power Co.
S. Z. Mitchell: See Electric Bond & Share Co. above.

The company originally owned securities of public-utility corporations operating in 25 eastern cities in 7 States. It has, however, largely added to its holdings since its formation.

I. United Electric Securities Co.

Incorporated in Maine. The company devotes itself particularly to buying mortgage bonds of corporations operating electric light and railway plants and issuing against them its own collateral trust bonds.

Capital stock.—$500,000 common; $1,000,000 preferred.

Transfer agent.—American Trust Co., Boston.

Registrar.—Old Colony Trust Co., Boston.

Bonded debt.—Outstanding, $6,110,000.

Assets.—In 1912, approximately $9,700,000, including $6,365,915 bonds deposited to secure bonded debt and $1,973,992 of stocks of other companies.

Office.—47 Ames Building, Boston, Mass.

Officers.—President, Gordon Abbott; vice president, R. T. Paine, 2d; treasurer and secretary, E. L. Carr; assistant secretary and assistant treasurer, W. R. Emerson. Directors: Gordon Abbott, R. T. Paine, 2d, Ernest L. Carr, Samuel Carr, Charles Francis Adams, 2d, F. R. Hart, Winthrop Coffin, Francis Peabody, C. N. Mason, D. F. Appel, Hobart Ames.

This company is not represented on western operating companies.

K. The Electric Corporation.

Incorporated in Maine to establish, construct, and equip electric and other plants; to carry on the business of general brokers and dealers in securities, acquire same by subscription, hold, manage, mortgage, and dispose of same and any and all property, to any extent and in any manner requisite and incidental to its business.

Capital stock.—Authorized and outstanding, $3,000,000.

Transfer agent.—American Trust Co., Boston.

Registrar.—Old Colony Trust Co., Boston.

Debentures.—$1,544,300 outstanding, issued at organization to stockholders as bonus. The original issue was $2,500,000.

Assets.—In 1912, approximately $5,000,000.

Office.—53 State Street, Boston.

Officers.—President, C. F. Adams, 2d; treasurer, J. S. Bartlett; secretary, C. A. Stone. Directors: C. F. Adams, 2d, Oliver Ames, C. F. Ayer, J. S. Bartlett, F. W. Carpenter, J. N. Smith.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States, as indicated:

C. A. Stone: Puget Sound Traction, Light & Power Co., Sierra Pacific Electric Co.

Oliver Ames: Union Pacific Railroad Co., which controls Utah Light & Railway Co.

L. Electrical Utilities Corporation.

Incorporated in Maine to transact a general business of brokers and dealers in stocks, bonds, notes, securities, and mortgages of electrical companies.

Capital stock.—Authorized, $5,000,000 common; $2,500,000 preferred. Outstanding, $2,225,000 common; $1,500,000 preferred

Total assets.—$5,023,300.

Transfer agent.—Registrar & Transfer Co., Jersey City.

Registrar.—Corporation Trust Co., Jersey City, N. J. No bonds.

General office.—71 Broadway, New York.

Corporate office.—Portland, Me.

Officers.—President, S. Z. Mitchell; vice presidents, S. W. Childs, E. W. Hill, W. F. Fisher; treasurer, A. E. Smith; secretary, George J. Anderson; assistant secretary and assistant treasurer, E. P. Summerson; assistant secretary, Arthur A. Kelsey. Directors: S. Z. Mitchell, S. W. Childs, A. W. Burchard, A. C. Bedford, W. F. Fisher, Owen Hugh Smith, Louis Eggerton, James S. Anthony, H. M. Byllesby.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States, as indicated:

S. Z. Mitchell: See Electric Bond & Share Co.

A. W. Burchard: See General Electric Co.

A. C. Bedford: See Electric Bond & Share Co.

H. M. Bullesby: Standard Gas & Electric Co.

E. W. Hill: See Electric Bond & Share Co.

A. E. Smith: See Electric Bond & Share Co.

M. Electric Investment Corporation.

Incorporated in Virginia to acquire, hold, and deal in securities and obligations of public utility and other corporations of municipalities and governments.

Capital stock.—Authorized, $500,000 common; $1,000,000 preferred. Outstanding, $500,000 common; $500,000 preferred. No bonds.

Transfer agent.—Guaranty Trust Co., New York.

Registrar.—Empire Trust Co., New York.

Corporate office.—Richmond, Va.

New York office.—60 Broadway.

Officers.—President, George A. Galliver; vice president, E. P. Chalfant; treasurer, A. Keshishian; secretary, G. F. Ravenel. Executive committee: De Forest Candee (chairman), Anson W. Burchard, Oren Root, R. E. Breed, Harrison Williams. Directors: Anson W. Burchard, R. E. Breed, E. P. Chalfant, George A. Galliver, De Forest Candee, A. Keshishian, William A. McKee, Oren Root, Harrison Williams.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

A. W. Burchard: See General Electric Co.

R. E. Breed: See American Gas & Electric Co.

N. Federal Utilities (Inc.).

Incorporated in Virginia and authorized to do business in New York State. Formed for the purpose of acquiring, selling, and dealing in bonds, stocks, and other securities and properties of electric power, electric lighting, gas, and other public-service companies, or other enterprises with established earnings.

Capital stock.—Authorized, $3,000,000 common and $3,000,000 preferred. Outstanding, $2,000,000 common and $1,000,000 preferred.

Transfer agent.—Guaranty Trust Co., New York.

Registrar.—Columbia-Knickerbocker Trust Co., New York.

Assets.—December 31, 1912, approximately $2,200,000, including $1,275,679 securities at book value; $182,971 securities carried for syndicates; and $500,555 syndicate participations and subscriptions.

Office.—60 Broadway, New York.

Officers.—President, De Forest Candee; vice presidents, Russell Armstrong, E. L. Rhett; treasurer, G. A. Galliver; secretary, J. B. Marsh; assistant secretary, E. E. Bushnell; assistant treasurer, R. C. Adams. Executive committee: De Forest Candee, Russel Armstrong, A. W. Burchard, Samuel McRoberts, T. A. Reynolds, Harrison Williams, Charles H. Sabin, Albert H. Wiggin. Directors: Russel Armstrong, A. W. Burchard, De Forest Candee, G. A. Galliver, P. W. Herrick, Samuel McRoberts, T. A. Reynolds, E. L. Rhett, C. H. Sabin, A. H. Wiggin, Harrison Williams.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States, as indicated:

A. W. Burchard: See General Electric Co.

Charles H. Sabin: Montana Power Co., Great Falls Power Co., Idaho Railway, Light & Power Co., Southern Idaho Light, Heat & Power Co.

Albert H. Wiggin: Montana Power Co., American Waterworks & Electric Co., Idaho Railway, Light & Power Co.

O. The United Utilities Co.

Incorporated in Maine to deal in securities and properties of electric power, electric lighting, gas, and other public-service companies or enterprises; holdings consist of securities and stocks in 32 separate operating utility companies.

Capital stock.—Authorized, $5,000,000 common; $5,000,000 preferred. Outstanding, $5,000,000 common; $1,000,000 preferred.

Bonded debt.—$1,250,000.

Trustee.—Old Colony Trust Co., Boston.

Assets.—December 31, 1912, approximately $6,800,000, including $4,371,401 contracts and options, $531,932 investment bonds, notes, etc., and $1,586,690 investment stocks. On January 1, 1913, the company owned securities of a par value of $4,639,275.

Main office.—Portland, Me.

Business office.—14 Wall Street, New York.

Officers.—William P. Bonbright, president; William F. Fisher, Lord Fairfax, F. C. Walcott, O. B. Willcox, vice presidents; F. W. Stehr, treasurer; E. B. Tracy, secretary; F. Gerhard, assistant treasurer and assistant secretary. Directors: William P. Bonbright, Starling W. Childs, F. C. Walcott, Frederick W. Stehr, O. B. Willcox, C. P. Hamilton, E. B. Tracy, F. V. Henshaw, Irving W. Bonbright, George R. Buckman, William F. Fisher, Lord Fairfax.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

F. C. Walcott: Colorado Power Co.

O. B. Willcox: Colorado Power Co., Arizona Power Co., Pacific Gas & Electric Co. (Phoenix).

F. W. Stehr: Arizona Power Co., Pacific Gas & Electric Co. (Phoenix), Prescott Gas & Electric Co.

F. Gerhard: Arizona Power Co.

F. V. Henshaw: Arizona Power Co.

Irving W. Bonbright: Colorado Power Co.

P. American Utilities Co.

Incorporated in Pennsylvania to deal in securties and properties of electric power, electric lighting, gas, and other public-service companies or enterprises.

Capital stock.—Authorized, $1,000,000 common; $1,000,000 preferred. Outstanding, $1,000,000 common; $600,000 preferred.

Transfer agent.—Pennsylvania Co. for Insurance of Lives and Granting Annuities, Philadelphia.

Registrar.—Philadelphia Trust, Safe Deposit & Insurance Co. No bonds.

Assets.—January 31, 1913, approximately $1,800,000, including $748,521 stocks and bonds owned, $924,611 contracts and options.

General office.—437 Chestnut Street, Philadelphia.

Officers.—President, William P. Bonbright; vice presidents, Starling W. Childs, Morris W. Stroud, jr.; treasurer, Frederick Gerhard; secretary, E. B. Tracy; assistant secretary and treasurer, H. H. Lowry. Directors: William P. Bonbright, Starling W. Childs, Frederick W. Stehr, Samuel M. Clement, jr., Walter H. Lippincott, John C. Lowry, Charles H. Ludington, Morris W. Stroud, Morris W. Stroud, jr., Jos. B. Townsend, jr., Charlton Yarnall, Alex. D. Grange.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

Frederick Gerhard: Arizona Power Co.

F. W. Stehr: See The United Utilities Co.

Q. Public Securities Co.

Incorporated in New Jersey to undertake the financing of gas, electric-light, traction, steam railway, hydroelectric, and timber properties.

Capital stock.—Authorized: $8,000,000 common, $10,000,000 preferred, $2,000,000 founders' stock—as stated in the Manual of Railroad and Corporation Securities for 1912.

The manual for 1913 states the authorized capital stock as $4,000,000 common, $2,500,000 preferred.

The following were reported as directors of the company in 1912, but not in 1913: C. H. Deppe, W. A. Graff, H. M. Byllesby, and C. L. Poole, of Chicago, Ill.; John W. Blodgett, of Grand Rapids, Mich.; F. H. Buhl, of Sharon, Pa.; and J. E. Danaher, of Detroit, Mich.

Office.—Chicago, Ill.

Officers.—President, Homer W. McCoy; J. H. Roy, vice president, secretary, and treasurer; directors, Homer W. McCoy, J. H. Roy, H. G. Burt, Samuel Insull, B. E. Sunny, Walter Barker, H. H. Picking, M. D. Thatcher, W. A. Layman.

Officers connected with operating companies.—The following officer is a director of operating companies in the Western States as indicated:

Samuel Insull: American Waterworks & Electric Co., Pacific Gas & Electric Co.

R. Electric Properties Co.

Incorporated in May, 1906, in New York to acquire, finance, and develop properties in which electricity plays the principal part, such as power, electric traction, and electric lighting properties, and to invest and deal in and to

guarantee the securities of corporations operating such properties. The company has acquired the entire capital stock of the Westinghouse, Church, Kerr & Co., and, through that company, transacts a general engineering and construction business. In June, 1912, $4,000,000 common and $1,000,000 preferred stock of the company, formerly owned by the Westinghouse Machine Co., was acquired by a syndicate composed of William Morris Imbrie & Co., Stone & Webster, the Westinghouse Electric & Manufacturing Co., and others.

Capital stock.—Authorized: $6,000,000 common, $6,000,000 preferred. Outstanding: $6,000,000 common, $3,920,200 preferred.

Transfer agent.—Kean, Taylor & Co., New York.

Assets.—April 30, 1912, approximately $10,000,000, including $8,375,352 investments.

Office.—37 Wall Street, New York.

Officers.—J. F. Wallace, president; A. M. Chambers, vice president; John Seagar, secretary and treasurer. Directors: C. H. Allen, F. Q. Brown, A. M. Chambers, P. D. Cravath, H. R. Hays, James Imbrie, A. L. Kramer, A. W. Krech, Homer Loring, J. R. McGinley, John Seagar, H. E. Smith, E. G. Tillotson, G. E. Tripp, J. F. Wallace, George Westinghouse, H. H. Westinghouse, A. H. Wiggin.

Officers connected with operating companies:

A. H. Wiggin: Montana Power Co., American Waterworks & Electric Co., Idaho Railway, Light & Power Co.

G. E. Tripp: Pacific Coast Power Co., Puget Sound Electric Railway.

S. United Gas & Electric Corporation.

Incorporated in Connecticut as a holding company. The companies controlled operate in Connecticut, New York, Pennsylvania, Indiana, Illinois, Kansas, Colorado, Texas, and Louisiana. There are 17 subsidiary properties.

Capital stock.—Authorized: $20,000,000 common, $25,000,000 accumulative preferred. Outstanding: $8,378,620 common, $9,453,000 preferred.

Transfer agent.—Girard Trust Co., Philadelphia.

Registrar.—Pennsylvania Co. for Insurance of Lives & Granting Annuities, Philadelphia.

Convertible notes.—$5,890,000.

General office.—40 Wall Street, New York.

The Commercial and Financial Chronicle for March 14, 1914, states, with reference to the American Cities Co., that on December 1, 1913, the management of this company was taken over by the United Gas & Electric Corporation, which purchased practically all of the $16,000,000 of common stock. The operations of the United Gas & Electric Corporation were thus extended to the States of Tennessee, Alabama, and Arkansas.

Officers.—President, George Bullock; vice presidents, R. E. Griscom and S. T. Dill; secretary and treasurer, Henry Morgan; assistant secretary and assistant treasurer, M. D. Evans. Directors: R. E. Griscom; S. R. Berton, George Bullock; Henry Morgan; Harry Bronner; M. W. Dodge; W. B. Joyce; Samuel Insull; S. C. Dunham; G. E. Shaw; F. M. Potts; J. S. Jenks, jr.; R. L. Montgomery; John Gribbel; W. W. Griest; George W. Bacon; A. H. Wiggin; A. J. Hemphill; S. Z. Mitchell; J. J. Gannon; W. P. G. Harding; F. M. Kirby; Frank A. Sayles; R. Lancaster Williams; Frank B. Hayne.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

George W. Bacon: United Railways Investment Co., California Railway & Power Co., Sierra & San Francisco Power Co., Tuolumne Water Power Co.

A. H. Wiggin: See Federal Utilities (Inc.).

A. J. Hemphill: California Railway & Power Co.

S. Z. Mitchell: See Electric Bond & Share Co.

R. E. Griscom: United Gas & Electric Co.

George Bullock: Colorado Springs Light, Heat & Power Co.

Henry Morgan: Colorado Springs Light, Heat & Power Co.

Harry Bronner: Northern Colorado Power Co.

Samuel Insull: Pacific Gas & Electric Co., American Waterworks & Electric Co.

S. T. Dill: Colorado Springs Light, Heat & Power Co.

T. Federal Light & Traction Co.

Incorporated in New York. Controls through ownership of nearly all the outstanding stocks and bonds electric lighting properties in Albuquerque, Deming, and Las Vegas, N. Mex.; Tucson, Ariz.; Aberdeen, Cosmopolis, and Hoquiam, Wash.; Sheridan and Rawlins, Wyo.; Springfield, Mo.; Trinidad and Walsenberg, Colo.; Hobart, Okla.; Hot Springs, Ark.; and various other properties.

Capital stock.—Authorized: $5,500,000 common, $5,500,000 preferred. Outstanding: $4,750,00 common, $2,500,000 preferred.

Transfer agents.—New York Trust Co., New York, and National City Bank, New York.

Registrar.—National City Bank, New York.

Bonded debt.—On December 31, 1912, $3,400,000 first sinking fund gold fives; $1,500,000 10-year debenture sixes; $500,000 5 per cent secured notes.

Assets.—Approximately $16,800,000.

General office.—60 Broadway, New York.

Officers.—President, J. C. Colgate; vice president, E. N. Sanderson; vice president and general manager, C. C. Chappell; vice president, Craig Colgate; treasurer, H. N. Wadham; secretary H. H. Porter; assistant treasurer, L. C. Gerry; assistant secretary, J. B. Marsh. Executive committee; James S. Colgate, chairman; Harrison Williams, Anson W. Burchard, Samuel McRoberts, Edwin N. Sanderson, Craig Colgate. Directors: James C. Colgate, Samuel McRoberts, R. E. Breed, R. R. Colgate, Craig Colgate, Edwin N. Sanderson, Harrison Williams, H. Hobart Porter, Howard Bayne, Anson W. Burchard, J. J. Bodell, Jerry Crary, Wm. S. Iliff, Parmeley W. Herrick, P. B. Simonds.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

H. Hobart Porter: American Waterworks & Electric Co.

A. W. Burchard: See General Electric Co.

R. E. Breed: See American Gas & Electric Co.

U. American Light & Traction Co.

Incorporated in New Jersey to consolidate and control various gas, electric lighting and traction interests in different parts of the United States which had previously been controlled by Messrs. Emerson, McMillin & Co., and associates. The properties controlled are located in New York, New Jersey, Michigan, Wisconsin, Illinois, Missouri, Minnesota, and Texas.

Capital stock.—Authorized, $40,000,000 common; $25,000,000 preferred. Outstanding on January 1, 1913, $12,610,200 common, $14,236,200 preferred.

Transfer agents.—Emerson, McMillin & Co., 40 Wall Street, New York; Michigan Trust Co., Grand Rapids, Mich., and the New Jersey Corporation Agency, Jersey City, N. J.

Registrars.—Equitable Trust Co., New York, and the National City Bank, Grand Rapids, Mich.

Assets.—December 31, 1912, approximately $39,900,000, including $26,723,894 investment account, and $2,374,075 of stocks held for temporary investment.

Main office.—40 Wall Street, New York.

Officers.—Chairman of board, Emerson McMillin; president, A. P. Lathrop; vice president, Marion McMillin; secretary and treasurer, C. N. Jelliffe; engineer, H. C. Abell; auditor, James Lawrence; assistant secretary and assistant treasurer, Thos. M. Leahy. Directors: George Blumenthal, Franklin Q. Brown, R. R. Colgate, I. D. Fletcher, J. S. Foster, W. W. Foster, A. G. Hodenpyl, T. H. Hubbard, W. B. Joyce, J. M. McCarthy, A. P. Lathrop, J. P. Lee, Philip Lehman, Emerson McMillin, Marion McMillin, Benjamin Strong, jr., F. S. Smith, James Campbell, F. L. Clark, W. H. Doane, James H. Wilson.

Officer connected with operating companies.—The following officer is a director of operating companies in the Western States, as indicated:

James Campbell: Utah Power & Light Co.

V. Illuminating & Power Securities Corporation.

Incorporated in Virginia to buy, sell, and deal in stocks, bonds, and other securities and properties of electric power, electric lighting, gas, and other public-service companies or enterprises.

Capital stock.—Authorized, $5,000,000 common, $3,000,000 preferred. Outstanding, $5,000,000 common, $1,250,000 preferred.

Transfer agent.—Old Colony Trust Co., Boston.

Assets.—April 30, 1913, approximately $6,800,000; including good will and contracts, $3,999,000; stocks and bonds, $2,727,744.

General office.—19 Congress Street, Boston.

New York office.—30 Church Street.

Officers.—Chairman of board, M. P. Clough; president, C. P. Hamilton; vice presidents, R. C. Morse, S. W. Childs; secretary and treasurer, W. F. Pope; assistant secretary and assistant treasurer, W. H. Nash; directors, M. P. Clough, R. C. Morse, C. P. Hamilton, S. W. Childs, F. W. Stehr, W. S. Clough, E. B. Tracy.

Officer connected with operating companies.—The following officer is a director of operating companies in the Western States as indicated:

F. W. Stehr: Arizona Power Co.; Pacific Gas & Electric Co., of Phoenix; Prescott Gas & Electric Co.

W. United Railways Investment Co.

Incorporated in New Jersey; controls companies operating in California, Pennsylvania, and West Virginia.

Capital stock.—Authorized, $31,000,000 common, $25,000,000 preferred. Outstanding, $20,400,000 common, $16,000,000 preferred.

Transfer agents.—Bankers' Trust Co., New York, and Guarantee Trust & Safe Deposit Co., Philadelphia.

Registrars.—United States Mortgage & Trust Co., New York, and Fidelity Trust Co., Philadelphia.

Bonded debt.—On March 1, 1913, $20,856,000.

Assets.—December 31, 1912, approximately $64,000,000, including $62,201,360 investments.

Office.—15 Exchange Place, Jersey City, N. J.

Officers.—President, Mason B. Starring; vice presidents, George W. Bacon, A. J. Hemphill; secretary and assistant treasurer, W. J. Duane; treasurer, B. S. Guinness; assistant secretary and assistant treasurer, M. V. R. Weyant; directors, George W. Bacon, Henry J. Bowdoin, A. J. Hemphill, James D. Callery, Benjamin S. Guinness, Emil Loeb, W. H. Chesebrough, Jacob K. Newman, James H. Reed, Eben Richards, Moritz Rosenthal, H. I. Miller, Francis S. Smithers, Mason B. Starring, Frederick B. Van Vorst.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States as indicated:

Mason B. Starring: California Railway & Power Co.

George W. Bacon: United Gas & Electric Corporation, California Railway & Power Co., Sierra & San Francisco Power Co., Tuolumne Water & Power Co.

A. J. Hemphill: California Railway & Power Co., United Gas & Electric Corporation.

B. S. Guinness: California Railway & Power Co.

James D. Callery: California Railway & Power Co.

James H. Reed: California Railway & Power Co.

X. Railway & Light Securities Co.

Incorporated in Maine to hold for income or sale the securities of transportation, illuminating, power, or other public-service corporations; owns stocks and bonds of 37 independent companies, 20 of which are managed by Stone & Webster Management Association; owns bonds to the amount of $4,356,500 par value in 30 of these companies and stocks aggregating $1,276,600 par value in 14 companies.

Capital stock.—Authorized, $1,200,000 common; $2,000,000 preferred. Outstanding, $1,000,000 common; $1,500,000 preferred.

Transfer agents.—Old Colony Trust Co., Boston.

Registrar.—American Trust Co., Boston.

Bonded debt.—January 31, 1913, four series of collateral trust notes, aggregating $1,627,000.

Trustee and registrar.—Old Colony Trust Co., Boston.

Assets.—January 31, 1913, approximately $5,737,000.

Office.—60 State Street, Boston.

Officers.—President, Russell Robb; vice president, T. N. Perkins; secretary and treasurer, E. I. B. Huntoon. Directors: R. T. Paine, 2d, Stedman Buttrick, Russell Robb, T. N. Perkins, J. J. Storrow, R. F. Herrick, Eliot Wadsworth, H. G. Bradlee, Chas. A. Stone E. S. Webster, John W. Hallowell.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States, as indicated:

Russell Robb: Puget Sound Traction, Light & Power Co., Whatcom County Railway & Light Co.

Stedman Buttrick: Puget Sound Traction, Light & Power Co.

Eliot Wadsworth: Seattle Electric Co., Puget Sound Electric Railway, Whatcom County Railway & Light Co.

H. G. Bradlee: Puget Sound Traction, Light & Power Co., Whatcom County Railway & Light Co.

Chas. A. Stone: See The Electric Corporation.

E. S. Webster: Puget Sound Traction, Light & Power Co., Whatcom County Railway & Light Co.

John W. Hallowell: Whatcom County Railway & Light Co.

Y. Public Service Investment Co.

Incorporated in Maine with power, among other things, to hold and to deal in stocks, bonds, notes, or other securities. The company owns stock of a par value of $4,577,100 in 11 companies, under the management of Stone & Webster. A controlling interest in the stock is owned by Stone & Webster.

Capital stock.—Authorized and outstanding, $2,000,000 common; $2,000,000 preferred.

Transfer agents.—Stone & Webster, Boston.

Registrar.—Beacon Trust Co., Boston.

No bonds.

Office.—147 Milk Street, Boston.

Assets.—Securities of 12 companies, $5,205,200.

Officers.—President, Eliot Wadsworth; vice president, Edward Byrnes; secretary and treasurer, Henry R. Hayes. Directors: Henry G. Bradlee, Russell Robb, Chas. A. Stone, E. S. Webster, Eliot Wadsworth.

Officers connected with operating companies.—The following officers are directors of operating companies in the Western States, as indicated.

Eliot Wadsworth: Seattle Electric Co., Puget Sound Electric Railway, Whatcom County Railway & Light Co.

Edward Byrnes: Sierra Pacific Electric Co., Whatcom County Railway & Light Co.

Russell Robb: Puget Sound Traction, Light & Power Co., Whatcom Railway & Light Co.

Chas. A. Stone: See The Electric Corporation.

Edwin S. Webster: Puget Sound Traction, Light & Power Co., Whatcom County Railway & Light Co.

INFLUENCE OF HOLDING COMPANIES.

The total amount of securities held by the 24 holding companies just described can not be closely determined, because of the lack of information concerning the holdings of some of the companies. The aggregate amount appears, however, to be about $275,000,000. When it is considered that in many instances the holding company has only a bare majority of the stock of the operating company and that the remainder, as well as the bonds, may be in the hands of the public, it is apparent that the amount of securities which may be thus controlled may run easily to $500,000,000.

Again, the holding company may deposit the stocks and bonds which it holds with some bank as trustee, and, using this collateral as security, may issue securities of its own up to a certain percentage of the value of the securities pledged. The bonds and preferred stock so issued, having a face value of perhaps 75 per cent of the market value of the underlying securities, are then offered to the public, the majority of the stock being retained for voting by the stockholders of the holding company. The stocks so pledged are still within the control of the holding company to the extent that they may vote the stock and thus control the operating companies. By this method it is possible for the stockholders of a holding company to retain the control of the subordinate companies with a relatively small investment, perhaps not exceeding 10 or 15 per cent of the capitalization of the operating company. The common stock of the holding company usually represents little or no investment.

The holding companies above listed in several instances control completely operating power companies. Those which control companies operating in the territory under discussion are the following:

(E) Utah Securities Corporation controls (25) Utah Power & Light Co.

(F) American Power & Light Co. controls (4) Pacific Power & Light Co.

(S) United Gas & Electric Corporation controls (19) Colorado Springs Light, Heat & Power Co.

(W) United Railways Investment Co. controls (19) Sierra & San Francisco Power Co.

Other relationships which are extremely intimate, while not perhaps amounting to the ownership of a majority of the stock, are as follows:

(X) Railway & Light Securities Co. and (Y) Public Service Investment Co. own large amounts of the stock of the (1) Puget Sound Railway, Light & Power Co. and the (2) Sierra Pacific Electric Co.

(Q) Public Securities Co. and (M) Electric Investment Corporation apparently hold large blocks of the stock of the (13) Pacific Gas & Electric Co.

The (I) Illuminating & Power Securities Corporation has a large block of the stock of the (8) Standard Gas & Electric Co.

The (B) Electric Bond & Share Co. is probably the owner of most of the stock of the (7) Colorado Power Co.

In most instances there are no data available as to such holdings. Statements of stocks controlled are usually only issued when it is desired to raise additional capital by stock pledges, and in many cases even this is done without revealing to the general public the identity of the securities which are pledged.

OPERATING COMPANIES.

The ownership of about 90 per cent of the developed water power of the Western States rests in the hands of a small number of operating companies. Some of these companies not only themselves operate public utilities, but own the stock and thus direct the policy and management of other companies. It is thus impossible to draw a close line of distinction between operating and holding companies, since one company may have both functions. For the purposes of this statement it has, however, been considered advisable to select the larger public-utilities companies operating, either directly or through subsidiaries, hydroelectric plants and indicate in each instance the power which it controls, its relations to its controlling or controlled companies, to other similar corporations in the Western States, and to the larger securities-holding companies which are continent-wide in their activities. The unit used in this discussion is somewhat variable, depending upon the relations of the companies. The subsidiary operating companies have, where possible, been combined into the larger groups. For instance, under Standard Gas & Electric Co. three operating companies of considerable importance are grouped, although the Standard Gas & Electric Co. is not strictly an operating company. All of these companies are in a manner subordinate to the network of purely holding companies which has been discussed. By this method 27 companies which are, so far as operation is concerned, generally independent have been selected and are described. Leaving out of consideration municipal plants, these companies operate 93 per cent of the developed water power of the Western States.

In the indication of corporate relations the following symbols have been used:

(*a*) Subsidiary controlled by stock ownership.

(*b*) Subsidiary, the properties of which have been acquired through purchase.

(*c*) Subsidiary, the properties of which are leased.

(*d*) Subsidiary, the method of control not accurately known.

1. *Puget Sound Traction, Light & Power Co.*—Incorporated in 1912. General office, Seattle, Wash. Boston office, Stone & Webster Building, 147 Milk Street. The company is controlled by Stone & Webster.

Parent and subsidiary companies:

- Puget Sound Traction, Light & Power Co.
  - The Seattle Electric Co. (*b*).
  - Pacific Coast Power Co. (*b*).
  - Puget Sound Power Co. (*b*).
  - Seattle Tacoma Power Co. (*b*).
  - Whatcom County Railway & Light Co. (*b*).
  - Puget Sound Electric Railway (*a*).
  - Pacific Northwest Traction Co. (*a*).
    - Puget Sound International Railway & Power Co. (*a*).
      - Everett Railway, Light & Water Co. (*c*).
  - The Seattle Railway Co. (*b*).
  - Tacoma Railway & Power Co. (*b*).
  - Everett Railway & Electric Co. (*d*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Washington:		
Puget Sound Traction, Light & Power Co.	North Fork Nooksack	3,200
Do	Snoqualmie Falls	31,000
Do	Dieringer	36,000
Do	Electron	30,000
Total		100,200

Officers and directors (Puget Sound Traction, Light & Power Co.)..—Officers: Jacob Furth, president; A. W. Leonard, vice president; A. S. Michener, vice president; H. A. Lait, vice president; Fred S. Pratt, vice president; Guy L. Weymouth, vice president; T. S. Blumer, vice president; H. B. Sawyer, Treasurer; Chester M. Clark, secretary. Directors: H. B. Sawyer, Chester M. Clark, J. C. Rice, Jacob Furth, H. K. White, G. C. Lee, G. M. Lane, William Endicott, jr., H. G. Bradlee, C. R. Ford, Isaac Sprague, N. H. Stone, Philip Stockton, F. E. Snow, F. S. Pratt, Charles A. Stone, T. N. Perkins, Edwin S. Webster, Russell Robb, Stedman Buttrick, E. W. Purdy.

Officers and directors (Whatcom County Railway & Light Co.).—Officers: F. S. Pratt, president; Edward Byrnes, vice president; R. T. Laffin, vice president; H. B. Sawyer, treasurer; C. R. Ford, secretary; L. R. Coffin, manager. Directors: F. S. Pratt, E. W. Purdy, J. F. Hill, H. K. White, T. W. Gillette, N. H. Stone, John R. Turner, C. N. Mason, Russell Robb, E. S. Webster, H. G. Bradlee, John W. Hollowell, Eliot Wadsworth.

Officers and directors (Puget Sound Electric Railway).—Officers: Jacob Furth, president; F. S. Pratt, vice president; R. T. Laffin, vice president; C. R. Ford, secretary; H. B. Sawyer, treasurer; Stone & Webster Management Association, general managers, Boston; L. H. Bean, manager, Tacoma, Wash. Directors: Guy E. Tripp, J. Furth, J. F. Hill, N. H. Stone, William Endicott, jr., Henry G. Bradlee, Fred S. Pratt, John R. Turner, Eliot Wadsworth, C. A. Stone, G. M. Lane, S. Z. Mitchell, Russell Robb, E. S. Webster.

Control and affiliations.—The Puget Sound Railway, Light & Power Co. is controlled by Stone & Webster, of Boston, six members of this firm being represented on the directorate of the company and its subsidiaries. The two Stone & Webster holding companies, the Public Service Investment Co., and the Railway & Light Securities Co, have, respectively, five and eight directors in common with the Puget Sound companies.

The directors of the Puget Sound companies are also associated with a number of other holding companies. Philip Stockton is a director of the General Electric Co., and S. Z. Mitchell and Gardner M. Lane of the Electric Bond & Share Co., as well as of a number of other holding companies. C. A. Stone is secretary of the Electric Corporation. Guy E. Tripp is a director of the Electric Properties Co. and C. N. Mason of the United Electric Securities Co. The presence of Stockton, Lane, and Mitchell on these directorates indicates an association with the General Electric Co., the intimacy of which may be fully appreciated only in the light of the relation of Stone & Webster and the General Electric Co. to the Old Colony Trust Co.

The Puget Sound companies are associated through interlocking directors with the following operating power companies in the area under consideration: Pacific Power & Light Co., Utah Power & Light Co., Sierra Pacific Electric Co., Montana Power Co., Sierra & San Francisco Power Co., and Colorado Power Co.

2. *Sierra Pacific Electric Co.*—Incorporated in 1909 in Maine. Owns all of the capital stock of companies doing the entire electric lighting and power business in Reno, Sparks, Virginia City, Carson City, and Silver City, Nev., and furnishes a large amount of power in the mining districts of western Nevada.

Office, Reno, Nev.

Parent and subsidiary companies:

Sierra Pacific Electric Co.—
- Reno Power, Light & Water Co. (*a*).
  - Washoe County Power & Development Co. (*a*).
- Hunter Creek Water Co. (*a*).
- Sparks Water Co. (*a*).
- Union Light & Water Co. (*b*).
- Carson City Coal Gas Co. (*a*).
- The Truckee River General Electric Co. (*a*).
  - Carson Electric Light Co. (*a*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Nevada:		
Sierra Pacific Electric Co.	Verdi	4,000
Do	Fleish	2,660
Do	Washoe	2,000
Do	Reno	930
California:		
Sierra Pacific Electric Co.	Farad	2,000
Total		11,590

The company is developing a water-power plant of large capacity on Rubicon River, Cal.

Officers and directors Sierra Pacific Electric Co.—Officers: Alfred von der Ropp, president; W. P. Hammon, vice president; C. F. Wallace, vice president; Edward Byrnes, vice president; A. K. Todd, secretary; Charles Hayden, treasurer; Henry B. Sawyer, assistant treasurer; Stone & Webster Management Association, general managers; G. A. Campbell, manager operating companies. Directors: R. W. Boyden, Galen L. Stone, J. C. Rice, H. M. Davis, C. A. Stone, A. F. Bigelow, Alfred von der Ropp, Albert Strauss, W. P. Hammon.

Control and affiliations.—The Sierra Pacific Electric Co. is controlled by and its properties managed in the interests of the firm of Stone & Webster, which is associated with General Electric Co. interests in many water-power projects.

3. *Utah Power & Light Co.*—Incorporated in 1912 in Maine. General office, 71 Broadway, New York City. The company is controlled by the Utah Securities Corporation through stock ownership, and it is the operating company which has acquired the properties merged by the Securities Corporation.

Subsidiary companies:

- Utah Power & Light Co.
  - Western Colorado Power Co. (*a*).
    - San Miguel Consolidated Gold Mining Co. (*b*).
    - San Juan Water & Power Co. (*b*).
      - Animas Power & Water Co. (*d*).
    - Durango Gas & Electric Co. (*b*).
    - Montrose Electric Light & Power Co. (*d*).
    - Delta Electric Light & Power Co. (*d*).
    - Ouray Electric Power & Light Co. (*c*).
    - Telluride Electric Light Co. (*d*).
  - Telluride Power Co. (*b*).
    - Telluride Power Transmission Co. (*b*).
    - Logan Power Lighting & Heating Co. (*b*).
    - Salt Lake City Water & Electric Co. (*b*).
  - Utah Power Co. (*d*).
    - Knight Consolidated Power Co. (*b*).
      - Smoke Creek Power Co. (*b*).
      - Mill Creek Power Co. (*b*).
      - Utah County Light & Power Co. (*b*).
  - Davis & Weber Counties Canal Co. (power plant) (*c*).
  - Idaho Power & Transportation Co. (*b*).
    - St. Anthony Light & Power Co. (*d*).
  - Utah-Idaho Sugar Co. (power plant) (*c*).
  - Davis County Light & Power Co. (*d*).
  - Gem State Light & Power Co. (*b*).
  - Home Telephone & Electric Co. (distribution system) (*d*).
  - Salt Lake & Ogden Railway (steam plant) (*c*).
  - Merchants Light & Power Co. of Ogden (*a*).
  - Utah Copper Co. (steam plant) (*c*).
  - Blacksmith Fork Light & Power Co. (*b*).
  - High Creek Power Co. (*b*).
  - Bear Lake Power Co. (*b*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Idaho:		
St. Anthony Light & Power Co	St. Anthony Falls (not operated).	100
Idaho Power & Transportation Co	Idaho Falls	4,000
Utah Power & Light Co	Bear River (Grace)	17,000
Do	Georgetown	300
Do	Paris	1,000
Do	High Creek	750
Utah:		
Utah Power & Light Co	Nunn	2,010
Do	Olmstead	10,800
Do	Narrows	1,300
Do	Logan	3,000
Do	Battlecreek	3,216
Do	Santaquin	1,350
Do	Snake Creek	1,600
Do	Upper Mill Creek	500
Do	Lower Mill Creek	2,800
Do	Oakley	5,000
Do	Murdock	3,600
Do	Alpine	2,300
Do	Upper American Fork	1,600
Do	Lower American Fork	800
Do	Riverdale	5,400
Utah Power & Light Co. (leased from Utah-Idaho Sugar Co.).	Whelon	10,200
Utah Power & Light Co	Blacksmith Fork	4,000
Do	Willard	600
Do	Farmington	750
Colorado:		
Durango Gas & Electric Co	Durango	4,000
San Juan Water & Power Co	San Juan	6,000
Do	Rockwood	6,000
Montrose Electric Light & Power Co	Montrose	4,000
Delta Electric Light & Power Co	Delta	2,600
Ouray Electric Power & Light Co	Uncompahgre River	600
Telluride Power Co	Ames	4,825
Do	Ilium	1,600
Total		112,601

The Utah Power & Light Co. is also reported to control approximately 60,000 horsepower at present undeveloped, but a portion of which is now under construction. The company has in addition steam plants reported to have a capacity of 11,600 horsepower. The total power capacity owned or controlled by this company is therefore approximately 185,000 horsepower.

Officers and directors, Utah Power & Light Co.—Officers: D. C. Jackling, president; W. S. McCornick, G. E. Claflin, G. M. Dahl, P. B. Sawyer, vice presidents; E. P. Summerson, treasurer and assistant secretary; George B. Thomas, secretary; A. E. Smith, assistant secretary and assistant treasurer. Directors: R. E. Breed, James Campbell, S. Z. Mitchell, T. R. Cutler, John M. Hayes, D. C. Jackling, C. E. Loose, W. S. McCornick, P. J. Moran, C. W. Nibley, P. B. Sawyer, H. M. Walker, Bulkeley Wells, Charles Hayden, J. R. Nutt.

Control and affiliations.—The Utah Securities Co., which holds the common stock of the Utah Power & Light Co., was "organized by a syndicate under the leadership of the Electric Bond & Share Co. and Hayden, Stone & Co.," and is generally recognized as a General Electric subsidiary. The presence on its board of directors of five directors and two additional officers of the Electric Bond & Share Co. may be taken as an indication of the closeness of this relationship. As indicated in the accompanying table, the company is also represented through interlocking directorates upon 10 other securities-holding companies. In addition, A. C. Bedford is a vice president of the Standard Oil Co. of New Jersey, while J. D. Mortimer is president of the North American Co., an interstate public-service corporation controlling a large number of subsidiaries. James Mitchell is president of the Alabama Traction, Light & Power

Co., a company allied with General Electric and a holding corporation for the Alabama Power Co. Bulkeley Wells, formerly of the Central Colorado Power Co., is now president of the Western Colorado Power Co., a subsidiary of the Utah Power & Light Co.

The Utah Power & Light Co., through its directorate and that of the Utah Securities Corporation, is allied with nine other large operating companies in the Western States, most of which are closely affiliated with the General Electric Co. The Commercial and Financial Chronicle recently announces (Vol. XCVII, p. 1541) the election of Benjamin Strong, jr., to the directorate of the General Electric Co.

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Officers of the Utah Securities Corporation and Utah Power & Light Co. connected with other companies.

VP=Vice president. AP=Assistant to president. S=Secretary. AS=Assistant secretary. T=Treasurer. AT=Assistant treasurer. RC=Member reorganization committee.

			Holding companies, etc.												Operating companies and subsidiaries.								
	Utah Securities Corporation.	Utah Power & Light Co.	Electric Bond & Share.	The Securities Corporation General.	American Gas & Electric Co.	Electrical Utilities Corporation.	Electrical Investment Corporation.	United Utilities Co.	American Power & Light Co.	United Gas & Electric Corporation.	Federal Light & Traction Co.	United Railways Investment Co.	American Light & Traction Co.	American Cities Co.	Puget Sound Traction, Light & Power Co.	American Waterworks & Electric Co.	Pacific Power & Light Co.	Colorado Power Co.	(California Ry. & Power Co.) Sierra & San Francisco Power Co.	Western Power Co.	Montana Power Co.	Portland Railway, Light & Power Co.	Utah Light & Railway Co.
Bedford, A. C.	*		*			*			*									*		*		*	
Bonbright, Irving	*							*						*				*					
Breed, R. E.	*	*			*		*		*		*												
Campbell, James	*	*											*										
Claflin, G. E.	*	VP							*								*						
Dahl, G. M.	*	VP	AP																				
Mortimer, J. D.	*															*							
Hemphill, Alexander	*		*	*						*		*		*					*				
McCornick, W. G	VP	*																					
Mitchell, S. Z.	*	*	*	*	*	*			*	*				*	**		*	RC	*		**		
Smith, A. E.	S, T		AS															AT					
Strauss, Frederick	*		*																		*	*	
Strong, Benj., jr.	*		*										*										

4. *Pacific Power & Light Co.*—Incorporated in 1910 in Maine. General office, 71 Broadway, New York City. The company is controlled by the American Power & Light Co.

Parent and subsidiary companies:

General Electric Co.
- Electric Bond & Share Co. (*a*).
  - American Power & Light Co. (*a*).
    - Pacific Power & Light Co. (incorporated in Maine) (*a*).
      - Northwest Light & Water Co.
      - Northwestern Corporation of Philadelphia.
      - Yakima Valley Power Co.
      - Astoria Electric Co.
      - Wasco Warehouse Milling Co.
      - Walla Walla Valley Railway Co. (*a*).
      - Hood River Light & Power Co.
      - Husum Power Co.
      - Klickitat Light & Power Co.
      - Tucannon Power Co.
      - Dayton Electric Co.
      - Wattsburg Electric Light Co.
      - Prosser Water Co.
      - Prosser Power Co.
      - Reservation Electric Co. (*a*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Washington:		
Pacific Power & Light Co	Tucannon River	300
Do	Husum	560
Do	Blackhouse	200
Do	Waitsburg	200
Do	Dayton	200
Do	Priest Rapids	3,000
Do	North Yakima	750
Do	Naches	10,000
Do	Prosser	730
Oregon:		
Pacific Power & Light Co	Tygh Valley	3,600
Do	Hood River (2 plants)	630
Do	Walla Walla	3,400
Total		23,570

Officers and directors.—Officers: Guy W. Talbot, president; F. G. Sykes, vice president; E. W. Hill, vice president; Edward Cookingham, vice president; A. S. Grenier, vice president; G. E. Claflin, vice president; J. E. Davidson, vice president; E. P. Summerson, treasurer and assistant secretary; George F. Nevins, secretary and assistant treasurer; M. H. Arning, assistant treasurer and assistant secretary. Directors: J. C. Ainsworth, Edward Cookingham, G. E. Claflin, S. S. Gordon, William Jones, John A. Laing, C. Hunt Lewis, H. C. Lucas, S. Z. Mitchell, Miles C. Moore, Fred S. Fogg, Josiah Richards, F. G. Sykes, Guy W. Talbot, George F. Nevins.

Control and affiliations.—The Pacific Power & Light Co. is controlled by the American Power & Light Co., which owns all of the common stock ($6,000,000) except directors' shares. The American Power & Light Co. in addition controls, through ownership, the Kansas Gas & Electric Co. and the Portland Gas & Coke Co. The American Power & Light Co. was incorporated on September 17, 1909, in Maine, and all its common stock is held in a voting trust, with S. Z. Mitchell, A. C. Bedford, and Starling W. Childs trustees. It is stated to be controlled by the Electric Bond & Share Co. and allied interests. The original issue of notes by the company ($2,200,000) was underwritten by the Electric Bond & Share Co., which on May 1, 1911, held these notes to the amount of $1,954,393.

The officers, trustees, and directors of the American Power & Light Co. and the Pacific Power & Light Co. are on the board of directors of 12 other securities holding companies, including the General Electric Co. S. Z. Mitchell, a director of these companies, is on the directorate of the Puget Sound Electric Railway and the Tacoma Railway & Power Co., subsidiaries of the Puget Sound Traction, Light & Power Co., and is a director of the Utah Power & Light Co., the Colorado Power Co., the Sierra & San Francisco Power Co., and the Montana Power Co. Relationship with the Portland Railway, Light & Power Co. is established through A. C. Bedford, vice president of the Standard Oil Co. of New Jersey. The important interlocking directors are R. E. Breed, A. W. Burchard, and G. E. Claflin. These relationships are indicated in the following table:

Officers of the American Power & Light Co. and the Pacific Power & Light Co. connected with other companies.

			Holding companies, etc.												Operating companies and subsidiaries.						
	American Power & Light Co.	Pacific Power & Light Co.	General Electric Co.	Electric Bond & Share.	The Securities Corporation General.	American Gas & Electric Co.	Electrical Utilities Corporation.	Electrical Investment Corporation.	Federal Utilities (Inc.).	United Utilities Co.	American Utilities Co.	Utah Securities Corporation.	United Gas & Electric Corporation.	Federal Light & Traction Co.	Puget Sound Traction, Light & Power Co.	Utah Power & Light Co.	Colorado Power Co.	Sierra & San Francisco Power Co.	Western Power Co.	Montana Power Co.	Portland Railway Light & Power Co.
Bedford, A. C	*			*			*					*					*		***		*
Breed, R. E	*					*		*				*		*		*			***		
Burchard, A. W	*		*			*	*	*	*					*							
Claflin, G. E	*	*											*			*					
Farrar, F. A	*			*		*															
Mitchell, S. Z	*	*		*	*	*	*					*	*		**	*	*	*		**	
Sykes, F. G	*	*		VP																	
Walcott, F. C	*									*							RC				
Wehrhoane, H. H	*					*															
Hill, E. W	VP			*			VP														
Childs, S. W	VT						*			*	*										

5. *Arizona Power Co.*—Incorporated in 1908 in Maine. General offices, 49 Wall Street. Treasurer's office, 14 Wall Street, New York City.

Subsidiary companies:

Arizona Power Co.

Prescott Gas & Electric Co. (*a*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Arizona Power Co.	Fossil Creek	9,000

It is stated that the Arizona Power Co. controls one other water-power site, not as yet developed.

Officers and directors.—Officers: F. S. Viele, president; O. B. Willcox, vice president; R. S. Masson, vice president; F. W. Stehr, secretary and treasurer; Fred Gerhard, assistant secretary and assistant treasurer. Directors: F. S. Viele, F. W. Stehr, M. A. Viele, O. B. Willcox, F. V. Henshaw, G. H. Walbridge, R. S. Masson. Officers and directors (Prescott Gas & Electric Co.).—Officers: F. S. Viele, president; O. B. Willcox, vice president; R. S. Masson, vice president; F. W. Stehr, secretary and treasurer; Fred Gerhard, assistant secretary and assistant treasurer. Directors: F. S. Viele, F. W. Stehr, O. B. Willcox, G. H. Walbridge, R. S. Masson.

The control and affiliation of the Arizona Power Co. will be discussed in connection with the Pacific Gas & Electric Co., of Phoenix, Ariz.

6. *Pacific Gas & Electric Co.* (Phoenix, Ariz.).—Incorporated in 1900 in Arizona. Offices, Phoenix, Ariz., and 14 Wall Street, New York City.

Subsidiary companies:

Pacific Gas & Electric Co.

Phoenix Light & Fuel Co. (*b*).

Power controlled.—The company purchases from the Reclamation Service the power generated at the Roosevelt Dam of the Salt River project, reported to have a capacity of 4,500 horsepower, up to a maximum of 1,500 kilowatts. The text of the contract may be found in House Report No. 1506 (62d Cong., 3d sess.), "Investigations of the Salt and Gila Rivers Reservations and Reclamation Service."

Officers and directors.—Officers: G. H. Walbridge, president; F. S. Viele, vice president; O. B. Willcox, vice president; F. W. Stehr, secretary and treasurer; H. L. Aller, manager; W. C. Hornburger, superintendent. Directors: G. H. Walbridge, F. S. Viele, F. W. Stehr, L. H. Chalmers, and R. S. Masson.

Control and affiliations.—All the officers and directors of the Prescott Gas & Electric Co. are also with the Arizona Power Co., and with the exception of one director the officers of the Pacific Gas & Electric Co., of Phoenix, are the officers of the Arizona Power Co. The exception, L. H. Chalmers, is an attorney of Phoenix, and is stated to hold one share of the company's common stock, evidently merely a qualifying share. The three companies may therefore be regarded as controlled by the same interests.

The directors of these companies are connected with three securities holding companies. More significant, however, is the presence on the directorates of these power companies of three members of the firm of William P. Bonbright & Co., which, as is explained in the discussion of the Colorado Power Co., is closely affiliated with General Electric interests. The close affiliation of these companies with the Colorado Power Co. is indicated by the fact that G. H. Walbridge, president, and O. B. Willcox, a director of the Colorado Power Co., are officers and directors of the Arizona companies.

The Arizona Power Co. is operated by the Electric Operating Construction Co., an operating company connected with the engineering firm of Viele, Blackwell & Buck, two members of which are on the board of directors. This firm is located at 49 Wall Street. The financial connection of the Arizona companies appear to be with W. P. Bonbright & Co., which is at 14 Wall Street. These various affiliations clearly place the companies under General Electric influence.

Officers of the Arizona Power Co. and Pacific Gas & Electric Co., of Phoenix, and connections with other companies.

V. P.=Vice President. F.=Member of Firm.

	Arizona Power Co.	Prescott Gas & Electric Co.	Prescott Gas & Electric Co. of Phoenix.	Holding companies.				Operating company, Colorado Power Co.
				United Utilities Co.	American Utilities. Co.	Illuminating & Power Securities Corporation.	Wm. P. Bonbright & Co.	
Viele, F. S.	*	*	*					
Stehr, F. W.	*	*	*	*	*	*	*	
Willcox, O. B.	*	*	VP	*			*	*
Walbridge, G. H.	*	*	*				F	*
Masson, R. S.	*	*	*					

7. *Colorado Power Co.*—Incorporated in 1913 in Colorado. A reorganization of the Central Colorado Power Co., the reorganization committee consisting of Frederick C. Walcott, chairman; George C. Lee; Sidney Z. Mitchell. General office, Symes Building, Denver. New York office, 14 Wall Street.

Subsidiary companies:

The Colorado Power Co.
- The Central Colorado Power Co. (*b*).
  - The Leadville Light & Power Co. (*a*).
    - Leadville Gas & Electric Co. (*b*).
    - Yak Mining, Milling & Tunnel Co. (*b*).
- United Hydro Electric Co. (*b*).
  - United Light & Power Co. (*d*).
  - Cascade Electric Co. (*d*).
  - Green & Clear Lakes Co. (*d*).
  - Gilpin Light, Heat & Power Co. (*d*).
- Salida Light, Power & Utility Co.

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Colorado Power Co.	Middle Boulder Creek	21,000
Do	Shoshone	18,000
United Hydro Electric Co	Georgetown	1,800
Salida Light, Power & Utility Co	Marysville	900
Do		550
Total		42,500

Officers and directors.—Officers: George H. Walbridge, president; L. P. Hammond, vice president and general manager; C. D. Robbins, vice president; Irvin W. Day, secretary; D. E. Houston, treasurer; U. S. Sutherland, assistant secretary; E. M. Gilbert, assistant secretary and assistant treasurer; A. E. Smith, assistant treasurer. Directors: A. C. Bedford, Irving W. Bonbright, Irvin W. Day, William M. Evarts, Charles V. Graham, L. B. Lord, J. R. McKee, Ross A. Mackey, C. D. Robbins, George H. Walbridge, O. B. Willcox.

Control and affiliations.—The Colorado Power Co. is so closely affiliated with General Electric and its subsidiary companies that it may be regarded as controlled by that company. The general offices of the company are at 14 Wall Street, New York City, the address of William P. Bonbright & Co., the bond house, three members of which firm are on its directorate. This bond house is closely identified with General Electric interests through the presence on its directorate of S. Z. Mitchell, president of the Electric Bond & Share Co.

One director of the Colorado Power Co., J. R. McKee, is a director of the General Electric Co., and one director, A. C. Bedford, is also a director of the Electric Bond & Share Co. The directors of the Colorado Power Co. have six directorates on four securities-holding corporations.

A. C. Bedford is also a director of the Great Western Power Co. and the Portland Railway Light & Power Co. Through him the company is also affiliated with the Utah Power & Light Co., which is a subsidiary of the Utah Securities Co., and with the Pacific Power & Light Co., a subsidiary of the American Power & Light Co. Through G. H. Walbridge and O. B. Willcox the company is closely associated with the important Arizona power companies.

William M. Evarts, Charles V. Graham, and Ross A. Mackey, directors of the company, are all reported to be lawyers at 62 Cedar Street, New York City, where the offices of the Electrical Securities Corporation, a General Electric subsidiary, are located.

Officers of the Colorado Power Co. connected with other companies.

		Holding companies, etc.							Operating companies.			
	Colorado Power Co.	General Electric Co.	Electric Bond & Share Co.	Electrical Utilities Co.	United Utilities Co.	Utah Securities Corporation.	American Power & Light Co.	Wm. P. Bonbright & Co.	Great Western Power Co.	Portland Railway, Light & Power Co.	Arizona Power Co.	Pacific Gas & Electric Co. (Phoenix).
Bedford, A. C.	*		*	*		*	*		*	*	—	
Bonbright, Irving W.	*				*	*		*				
McKee, J. R.	*	*										
Walbridge, George H.	*							*			*	*
Willcox, O. B.	*				*			*			*	*

8. *Standard Gas & Electric Co.*—Incorporated April 28, 1910, in Delaware, as a holding and operating company. Executive office, 175 West Jackson Street, Chicago; Philadelphia office, Drexel Building; New York office, 111 Broadway.

Parent and subsidiary companies.—The Standard Gas & Electric Co. is controlled by H. M. Byllesby & Co., of Chicago, and operates through subsidiary companies utilities in 14 States. The relations of those operating in the territory under consideration are indicated as follows:

Standard Gas & Electric Co.
- Arkansas Valley Railway Light & Power Co. (*a*).
  - Pikes Peak Power Co. (*a*).
  - Pueblo and Suburban Traction & Lighting Co. (*a*).
  - Rocky Ford Electric Co. (*a*).
  - La Junta Electric Co. (*a*).
  - Colorado Light & Power Co. (*a*).
  - La Bella Mills Water & Power Co. (*a*).
  - Gold Belt Consolidated Electric Co. (*a*).
- San Diego Consolidated Gas & Electric Co. (*a*).
- Western States Gas & Electric Co., of Delaware (*a*).
  - Western States Gas & Electric Co., of California (*a*).
    - Humboldt Gas & Electric Co. (*b*).
    - Stockton Gas & Electric Corporation (*b*).
    - Richmond Light & Power Co. (*b*).
    - American River Electric Co. (*b*).
    - Arcata Light & Power Co. (*b*).
    - Fortuna Lighting Co. (*b*).
    - Ferndale Electric Light Co. (*b*).
    - North Mountain Power Co. (*b*).
    - Eureka Lighting Co. (*b*).
- Northern Idaho & Montana Power Co. (*a*).
  - Big Fork Electric Co. (*d*).
  - Flathead Valley Water & Power Co. (*d*).
  - Northern Electric Co. (*d*).
  - Pend d'Oreille Electric Co. (*d*).
  - Coos Bay Gas & Electric Co. (*d*).
  - Kalispill Water-Electric Co. (*d*).
  - Big Bend Light & Power Co. (*d*).
  - Willamette Valley Co. (*a*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Montana:		
Northern Idaho & Montana Power Co.	Big Fork	3,300
California:		
Western States Gas & Electric Co.	Trinity River	2,000
Do.	American River	4,000
Colorado:		
Arkansas Valley Railway, Light & Power Co.	West Beaver Creek	2,400
Total		11,700

The company controls additional undeveloped water power in Colorado (4,500 horsepower). It also states that its hydroelectric power capacity in California is 8,700 horsepower instead of the 6,000 horsepower above indicated, probably in additional installations. The Big Fork plant also has an ultimate capacity of 11,000 horsepower. The total water power controlled is thus 26,600 horsepower.

The Northern Idaho & Montana Power Co. operates two small steam plants; the Arkansas Valley Co. has also two steam stations (13,750 horsepower); the Western States has 6,700 horsepower, and the San Diego Co. 11,000 horsepower; a total steam capacity of approximately 32,000 horsepower.

Officers of the Standard Gas & Electric Co.—President, H. M. Byllesby; vice presidents, Isaac Milkewitch, R. E. Wilsey, J. J. O'Brien, F. W. Stearns, F. C. Gordon, jr.; secretary, W. F. Stevens; treasurer, R. J. Graf; assistant treasurers, M. A. Morrison, Herbert List; assistant secretaries, M. A. Morrison, Herbert List, H. M. Lippincott, R. J. Graf. Directors: H. M. Byllesby, J. S. Cummins, A. S. Huey, O. E. Osthoff, R E. Wilsey, J. J. O'Brien, R. J. Graf, F. W. Stearns, Isaac Milkewitch, W. J. Maloney.

Control and affiliations.—Practically all the subordinate companies of the Standard Gas & Electric Co. have nominal directorates, the capital stock in most instances being all or practically all held by the Standard Gas & Electric Co. All but six shares of the common stock of the Arkansas Valley Co., and all of the San Diego Co.'s common stock are so owned, also $3.145,700 out of $3,503,000 common stock, and $179,300 out of $2,125.000 preferred stock of the Western States Co. are owned by the Standard Gas & Electric Co. This company owns also $1,000,000 of the $4,000,000 common, $25,000 preferred, and $1,465,000 bonds of the Northern Idaho & Montana Power Co.

The Standard Gas & Electric Co. is stated to be controlled by H. M. Byllesby & Co., of Chicago. The principal figure in this firm is H. M. Byllesby, who, in addition to the companies controlled by the Standard Gas & Electric Co. is a director of the Appalachian Power Co., and the Tennessee Railway Light & Power Co. He is also a director of the Electrical Utilities Corporation, of the Public Utilities Corporation, and of the Public Securities Co., three important holding companies. In these companies he is closely associated with men who represent the interests of the General Electric Co.

As president and director of the Tennessee Railway, Light & Power Co. he is associated with E. W. Clark and C. M. Clark, of Philadelphia, who are officers of the Portland Railway, Light & Power Co., and with F. C. Walcott and O. B. Willcox, of William P. Bonbright & Co., who represent the General Electric Co.'s interests in the Colorado Power Co. and the two Arizona companies.

It is believed that the directorate of the Standard Gas & Electric Co. does not afford any indication of the ownership of the controlling interest in the company. The same directors appear on most of the controlling companies, and the published figures of stock ownership indicate that in most cases these directors hold only such qualifying shares as the State incorporation laws require. Three of the directors of the Standard Gas & Electric Co. are members of the firm of Cummins, Stearns & Milkewitch, lawyers, Insurance Exchange Building, Chicago, and are counsel for the company. Aside from Mr. Byllesby none of the directors are men of strong financial position such as would be expected on the directorate of a corporation controlling assets of $137,000,000. The conclusion can not be well avoided that these directors have the same relative influence in the affairs of the Standard Gas & Electric Co. that they exercise in the management of many of its subsidiaries.

Certain blocks of stock of the Standard Gas & Electric Co. and its subsidiaries are known to be held by various security holding corporations allied to the General Electric Co. In view of Mr. Byllesby's relations with these and other holding companies, it appears probable that the dominant interests in the Standard Gas & Electric Co. are also affiliated with that corporation. The fact that the Guaranty Trust Co. is registrar and transfer agent of its stock is regarded as significant in view of the fact that no large financial interests are apparently represented in the directorate.

9. *Summit County Power Co.*—Incorporated in 1907 in Colorado. General office, Denver, Colo.; New York office, 60 Wall Street. The company has no subsidiaries.

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Colorado:		
Summit County Power Co	Dillon	1,340
Do		700
Total		2,040

The company also has a small steam reserve plant.

Officers.—President, W. J. Barker; vice president and general manager, W. C. Sterne; treasurer, F. W. Frueauff; assistant secretary, L. F. Musil; secretary, C. N. Stannard; assistant treasurer, J. T. Brady; superintendent, Alex. Speer. Directors: H. L. Doherty (chairman), F. W. Frueauff, Paul R. Jones, W. J. Barker, W. C. Sterne, C. N. Stannard, J. T. Brady, R. J. Bardwell.

Control and affiliations.—The Summit County Power Co. is one of the smaller of a large number of public-service companies associated with and managed by H. L. Doherty & Co., of 60 Wall Street, New York City. Doherty & Co. have been instrumental in the formation of a number of corporations for the purpose of controlling and managing public-service properties, and these organizations have now consolidated properties in a number of States and Territories. In each instance the properties are managed by the Doherty Operating Co.

The Cities Service Co., which acquired control (December, 1913) of the Consolidated Cities Light, Power & Traction Co. and the Utilities Improvement Co. (Chronicle, vol. 97, p. 1732) is the most important of these. Other holding companies are the Electric Bond Deposit Co. and the Gas & Electric Securities Co. The officers and directors which these companies have in common are indicated in the accompanying table.

	H. L. Doherty & Co.	Doherty Operating Co.	Cities Service Co.	Consolidated Cities Light, Power & Traction Co.	Utilities Improvement Co.	Electric Bond Deposit Co.	Gas & Electric Securities Co.
Doherty, Henry L	*	*	*	*	*	*	*
Frueauff, Frank W	*	*	*	*	*	*	*
Brown, C. T	*	*	*	*	*	*	*
Musil, Louis F		T	T	T	T		AS
Scott, Holton H		*	*	*	*		*
Bump, M. R		*		*			
Gilbert, Carle B			*	AT		*	ST
Jones, Paul R			S	S	*		
Warren, L. R			AT	AS			AT
Satterfield, James M			C	*			*
Foster, Warren W			*	*	*		
Shaw, Leslie M			*	*	*		
Hoffman, William F			*		*		
Troth, William P				*		*	
Frueauff, Charles A			*	*	*		

The Summit County Power Co. is not stated to be controlled by stock ownership, but it is operated by the Doherty Operating Co., and it has a number of officers in common not only with other Doherty companies, but also with the Denver Gas & Electric Light Co.

The Cities Service Co. controls through stock ownership the Denver Gas & Electric Light Co. (owning 99.57 per cent of its common stock—all but $28,700), the Spokane Gas & Fuel Co., and the Pueblo Gas & Fuel Co. The Denver Gas & Electric Light Co. generates by steam 16,000 horsepower, and also purchases large amounts of power from the Colorado Power Co.

In practically all the subsidiaries of this company there appear, in addition to officers and directors connected with the New York office of Doherty & Co., local men. For instance, on the directorate of the Denver Gas & Electric Light Co. occur the names of 10 Denver men. Published statements of the ownership of stock indicate that these men do not together hold more than $28,700 of common stock, a very minor part of the $7,000,000 now outstanding.

F. W. Frueauff appears to act as general manager of the Doherty concerns, leaving Doherty free for financial operations. In addition to the Cities Service Co., Doherty is a director of the American Gas & Electric Co. and the American Light & Traction Co. The American Gas & Electric Co. is a subsidiary of the Electric Bond & Share Co. In the American Light & Traction Co. he is associated with the McMillen interests and both Benjamin Strong, jr., and James Campbell, who are closely identified with many General Electric enterprises.

The position of the Doherty interests in the public utility world is in many respects comparable with the Byllesby interests just discussed. They are characterized by the same type of nominal directorates, and by the same close affiliation of the head of the firm with General Electric holding companies and banking interests, and the lack of published information as to the control of the organizations.

10. *Sierra & San Francisco Power Co.*—Incorporated in 1909 in California. General office, 85 Second Street, San Francisco, Cal. Controlled through stock ownership by the California Railway & Power Co., which was incorporated in 1912 in Delaware, and has its executive office at 25 Broad Street, New York. This company is in turn controlled through stock ownership by the United Railways Investment Co., which was incorporated in 1902 in New Jersey, and has its corporate office at 15 Exchange Place, Jersey City, N. J.

Parent and subsidiary companies:

- United Railways Investment Co.
  - Philadelphia Co. (*a*).
  - California Railway & Power Co. (*a*).
    - United Railroads of San Francisco (*a*)
    - San Francisco Electric Railways (*a*)
    - Coast Valleys Gas & Electric Co. (*a*).
      - Monterey Gas & Electric Co. (*b*).
      - Monterey County Gas & Electric Co. (*b*).
      - Salinas Water, Light & Power Co. (*b*).
      - King City Water, Light & Power Co. (*b*).
      - Monterey & Pacific Grove Railway Co. (*a*).
    - Sierra & San Francisco Power Co. (*a*).
      - Stanislaus Electric Power Co. (*a*).
      - Tuolumne Water Power Co. (*b*).
        - (Leases power plant from and sells power to United Railroads of San Francisco.)

Water power controlled.	Plant.	Horsepower.
Sierra & San Francisco Power Co.	Stanislaus	45,000
Do	Phoenix	2,500
Do	Knights Ferry	2,000
		49,500

The Sierra & San Francisco Power Co. in addition owns a large steam plant in San Francisco with a capacity of 24,130 horsepower and operates under lease an additional steam plant of 4,250 horsepower capacity. The total capacity of the plants operated is stated to be 78,480 horsepower. The company owns reservoir sites and undeveloped power sites having a large additional capacity. A site on Stanislaus River, with an estimated capacity of 28,000 horsepower, held by the Stanislaus Electric Power Co., is proposed for early development.

Officers and directors, Sierra & San Francisco Power Co.—Officers: G. W. Bacon, president; C. N. Black, vice president; W. B. Brockway, secretary and

treasurer; H. F. Jackson, general manager; F. J. Blanchard, assistant secretary and assistant treasurer and auditor. Directors: George W. Bacon, C. N. Black, P. Calhoun, Warren Gregory, H. F. Jackson, J. W. Lilienthal, S. Z. Mitchell, Tirey L. Ford, P. L. Saltonstall.

Officers and directors Philadelphia Co.—Officers: James H. Reed, president; James D. Callery, vice president; W. B. Carson, secretary; J. L. Foster, assistant secretary; C. J. Braun, jr., treasurer; J. W. Murray, assistant treasurer; C. S. Mitchell, comptroller; Joseph F. Guffey, general manager; W. L. McCloy, general superintendent; J. H. Reed, jr., purchasing agent. Directors: H. J. Bowdoin, Patrick Calhoun, James D. Callery, R. H. Boggs, George E, McCague, James H. Reed, Edwin W. Smith, M. B. Starring, M. H. Furlaud, A. H. Wiggin, Baron Frederick von Schroder, Moritz Rosenthal.

Officers and directors California Railway & Power Co.—Officers: M. B. Starring, president; George W. Bacon, George de B. Greene, vice presidents; B. S. Guinness, treasurer; P. M. Haskins, secretary and assistant treasurer. Directors: George W. Bacon, Patrick Calhoun, J. D. Callery, George de B. Greene, B. S. Guinness, A. J. Hemphill, W. J. Maloney, S. H. March, J. H. Reed, M. B. Starring, R. B. Young.

Control and affiliations.—The companies here considered are closely affiliated with the American Cities Co. and the United Gas & Electric Corporation, which recently absorbed the American Cities Co. Affiliation with the Electric Bond & Share Co., controlled by the General Electric Co. by direct stock ownership, is shown by interlocking directorates.

Five directors of the United Railways Investment Co. and its subsidiaries are found on the directorates of eight of the other holding companies referred to in this statement. A director of the United Railways Investment Co. and the Philadelphia Co. is also a director of the Westinghouse Electric & Manufacturing Co. Another director of the Philadelphia Co. is also on the directorate of the Westinghouse Electric & Manufacturing Co.

Indirect connection with the Western States Gas & Electric Co., a subsidiary of the Standard Gas & Electric Co., a Byllesby company operating in the vicinity of Stockton, Cal., is found through the fact that W. J. Maloney is a director of the California Railway & Power Co. and also of the Standard Gas & Electric Co. and also of the Northern Idaho & Montana Power Co., which is a subsidiary of the Standard Gas & Electric Co. The probable significance of this relationship is found from the circumstance that these three companies are incorporated in Delaware and Mr. Maloney has his office in Wilmington, Del. Connection with the Western Power Co., also operating in California, is found through R. B. Young, of the banking house of E. H. Rollins & Sons, Boston, Mass., who is a director of the California Railway & Power Co., and is also a director of the Western Power Co. and of its subsidiaries, the Great Western Power Co. and the California Electric Generating Co. The main office of the Western Power Co. is located at 25 Broad Street, New York, which is the address of the president and several directors of the United Railways Investment Co. and of H. E. Huntington, who owns the Pacific Light & Power Corporation and other Southern California utilities.

Affiliation with power companies operating in Idaho is indicated by the fact that A. H. Wiggin, president of the Chase National Bank of New York, is a director of the Philadelphia Co., was a director prior to the receivership of the Idaho Railway Light & Power Co., and is a member of the reorganization committee and a voting trustee of the American Waterworks & Electric Co. Affiliations with companies operating in Oregon, Washington, Utah, Colorado, and Montana is indicated by the fact that Sidney Z. Mitchell, a director of the Sierra & San Francisco Power Co. and president of the Electric Bond & Share Co., New York, is also a director of the Pacific Power & Light Co., the Utah Power & Light Co., the Puget Sound Electric Railway Co., the Tacoma Railway & Power Co., the Montana Power Co., the Great Falls Power Co., and the Colorado Power Co. A. H. Wiggin, a director of the Philadelphia Co., is also on the directorate of the Montana Power Co. Francis S. Smithers, a director of the United Railways Investment Co., is also a director of the North American Co. and of J. G. White & Co. George W. Bacon, vice president of the United Railways Investment Co. and California Railway & Power Co. and president of the Sierra & San Francisco Power Co., is a member of the firm of Ford, Bacon & Davis, of New York, as is also C. N. Black, vice president and director of the Sierra & San Francisco Power Co. Several of the officers and directors of the United Railways Investment Co. and its subsidiaries are members or employees of the firm of Ladenburg, Thalman & Co., bankers, of 25 Broad Street, New York.

Officers of the Sierra & San Francisco Power Co. and associated corporations connected with other companies.

					Holding companies, etc.										Operating companies and subsidiaries.								
	United Railways Investment Co.	California Railway & Power Co.	Sierra & San Francisco Power Co.	Philadelphia Co.	Electric Bond & Share Co.	The Securities Corporation General.	American Gas & Electric Co.	Electrical Utilities Corporation.	Federal Utilities (Inc.).	Utah Securities Corporation.	American Power & Light Co.	United Gas & Electric Corporation.	American Cities Co.	Westinghouse Electric & Manufacturing Co.	Puget Sound Traction, Light & Power Co.	Utah Power & Light Co.	Pacific Power & Light Co.	Colorado Power Co.	Standard Gas & Electric Co.	Western Power Co.	Idaho Railway, Light & Power Co.	American Waterworks & Electric Co.	Montana Power Co.
Bacon, George W	*	*	*									*	*										
Callery, James D	*	*		*										*									
Hemphill, Alex. J	*	*			*	*				*		*	*										
Loeb, Emil	*												*										
Maloney, W. J		*																	**				
March, Sidney H		*											*										
Mitchell, Sidney Z			*		*	*	*	*		*	*	*	*		**	*	*	*					**
Newman, Jacob K	*												*										
Saltonstall, P. L			*		*							*											
Wiggin, A. H				*					*	*			*	*							*	*	*
Young, R. B		*																		**			

11. *Northern California Power Co., Consolidated, and the Oro Electric Corporation:*

The Northern California Power Co., Consolidated, was incorporated in 1908 in California. Main office, 995 Market Street, San Francisco, Cal.

The Oro Electric Corporation was incorporated in 1911 in California. Main office, Sharon Building, San Francisco, Cal. Announcement of the merger of these two companies has been made. Complete details are lacking, but it appears that a new corporation will be formed to take over the properties owned or controlled by the two old companies, stock in the new corporation being issued therefor in the ratio of 80 per cent for the Northern California Power Co., Consolidated, and 20 per cent for the Oro Electric Corporation.

Parent and subsidiary companies:

- Northern California Power Co., Consolidated.
  - Northern California Power Co. (*b*).
    - Keswick Electric Power Co.
    - Redding Water Co.
    - Redding Electric Light & Power Co.
    - Tehama Electric Co.
    - Redding Gas Co.
    - Belle Vue Irrigation Co.
    - Battle Creek Power Co.
    - Willows Water & Light Co.
    - Red Bluff Gas Co.
  - Sacramento Valley Power Co. (*b*).
    - Shasta Power Co. (*d*).
    - Northern Light & Power Co. (*d*).
    - Peoples Power Co. (*a*).
- Oro Electric Corporation.
  - Oro Water, Light & Power Co. (*a*).
    - Oroville Light & Power Co. (*a*).

Power controlled.	Developed water power	
	Plant.	Horsepower.
California:		
Oro Electric Corporation	Lime Saddle	2,700
Do	Coal Canyon	1,300
Northern California Power Co	North Fork Cow Creek	5,300
Do	Snow Creek	1,600
Do	Butte Creek (Volta)	8,860
Do	Little Butte Creek (south power house).	5,300
Do	Little Butte Creek (Inskip)	8,000
Do	Butte Creek (Coleman)	15,000
Total		48,060

In addition to this developed power the Oro Electric Corporation has a 50,000-horsepower project, on which construction has been started, and additional power sites providing for an ultimate power capacity of 130,000 horsepower.

Officers and directors, Northern California Power Co., Consolidated.—Officers: H. H. Noble, president; A. S. Carman, first vice president; E. V. D. Johnson, second vice president and manager; Edward Whaley, secretary; W. H. Pearce, assistant secretary. Directors: A. S. Carman, Eugene de Coulon, E. V. D. Johnson, H. H. Noble, Ferdinand Reis, jr.

Officers and directors Oro Electric Corporation.—Officers: J. W. Goodwin, president; L. J. Holton, vice president; W. G. Jack, secretary. Directors: J. W. Goodwin, L. J. Holton, W. G. Jack, A. O. Leuschner, Timothy J. Lyons, S. Shannon, W. S. Wilsey.

Control and affiliations.—The companies here considered appear to have been in active competition with the other operating power companies in the central valley of California. There is now pending before the courts of the State on appeal from the railroad commission an application of the Oro Electric Corporation to enter the city of Stockton with its lines, this city now being served by the Western States Gas & Electric Co., a Byllesby corporation. This appli-

cation is being vigorously opposed by the Western States Gas & Electric Co. and by the Pacific Gas & Electric Co. and the Western Power Co.

This company has also attempted to invade the territory served by the Pacific Gas & Electric Co. and the Western Power Co.

In 1908 the Sacramento Valley Co. was organized by interests closely allied with the Western Power Co. and invaded the territory then served by the Northern California Power Co. on Sacramento River. A rate war resulted, and the Sacramento Valley Co. was purchased by the Northern California Power Co., Consolidated, in 1912.

There are some indications of a community of interests between the Northern California Power Co., Consolidated, and other companies operating in California. For example, Ferdinand Rice, jr., a director in the Northern California Power Co., Consolidated, is associated on the directorate of the Midway Gas Co. with two directors of the Pacific Gas & Electric Co. or subsidiaries and with three directors of the San Joaquin Light & Power Corporation and the Pacific Light & Power Corporation or subsidiaries. Nearly one-half of the power output of the Northern California Power Co., Consolidated, is sold to the Pacific Gas & Electric Co.

12. *California-Oregon Power Co.*—Incorporated in 1911 in California to succeed the Siskiyou Electric Power & Light Co., organized in 1902. Office, 131 Leidesdorff Street, San Francisco, Cal.

Parent and subsidiary companies:

- California-Oregon Power Co.
  - Siskiyou Electric Power & Light Co. (*b*).
    - Montague Electric Light Co. (*b*).
    - Siskiyou Electric Power Co. (*b*).
    - Yreka Electric Light Co. (*b*).
    - Fort Jones Electric Co. (*b*).
    - Etna Electric Light Co. (*b*).
    - Kapplar Power Co. (*b*).
    - Dunsmuir Electric Light Co. (*b*).
    - Mossbrae Falls Power & Light Co. (*b*).
    - Ashland Electric Power & Light Co. (*a*)
    - Prospect Construction Co. (*a*).
    - Rogue River Electric Co. (*a*).
  - Klamath Falls Power Co. (*b*).
    - Klamath Falls Light & Water Co. (*b*).
    - Klamath River Power Co. (*b*).
    - Klamath Power Co. (*b*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
alifornia:		
California-Oregon Power Co	Fall Creek	3,670
Do	Shasta River	450
Do	Gold Ray	2,690
Do	Prospect	7,415
Do	Klamath Falls	1,500
Total		15,725

In addition, hydroelectric plants of about 50,000-horsepower capacity are under construction, and power sites of 160,000 horsepower additional are controlled by the company.

Officers and directors, California-Oregon Power Co.—Officers: Jesse W. Churchill, president; John D. McKee, vice president; Alec. J. Rosborough, secretary and general manager; J. P. Churchill, treasurer. Directors: W. I. Brobeck, J. P. Churchill, Jesse W. Churchill, Philippe de Tristan, Joseph A. Donohoe, J. D. Grant, John D. McKee, J. Henry Meyer, Alec. J. Rosborough.

Control and affiliations.—Messrs. Churchill and Rosborough are understood to be the organizers and promoters of the project. Comparison of the directorates in 1912 and 1913 shows that several San Francisco bankers were added to the list of directors at about that time. In this connection it is noteworthy that the only outstanding mortgage bonds of the company were issued at

about the beginning of 1912, the Mercantile Trust Co., of San Francisco, being the trustee. Two directors of the California-Oregon Power Co. are also directors of this trust company. On the directorate of the Mercantile Trust Co. is a director of the Portland Railway, Light & Power Co. and of the Pacific Gas & Electric Co. Ogden Mills, of New York, is a director of the Mercantile Trust Co., who is interested in large power developments in the United States, including that of Niagara Falls.

13. *Pacific Gas & Electric Co.*—Incorporated in 1905 in California. Office, 445 Sutter Street, San Francisco, Cal.

Parent and subsidiary companies:

Pacific Gas & Electric Co.
- Fresno Gas & Electric Co. (*b*).
- Vallejo Gas Co. (*b*).
- California Central Gas & Electric Co. (*b*).
- South Yuba Water Co. (*b*).
- Central California Electric Co. (*b*).
- San Francisco Gas & Electric Co. (*b*).
- Metropolitan Gas Corporation (*b*).
  - San Francisco Coke & Gas Co. (*b*).
- California Gas & Electric Corporation (*b*).
  - Bay Counties Power Co. (*b*).
  - Valley Counties Power Co. (*b*).
  - Oakland Gas, Light & Heat Co. (*b*).
  - Sacramento Electric, Gas & Railway Co. (*b*).
  - Standard Electric Co. of California (*b*).
  - United Gas & Electric Co. (*b*).
  - Blue Lakes Water Co. (*b*).
  - Stockton Water Co. (*b*).
  - San Mateo Power Co. (*b*).
  - Berkeley Electric Lighting Co. (*b*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
California:		
Pacific Gas & Electric Co.	North Fork Yuba River (Colgate).	19,800
Do.	Deer Creek.	7,330
Do.	North Fork American River (Alta).	4,000
Do.	North Fork American River (Newcastle).	1,060
Do.	American River (Folsom).	5,000
Do.	Mokelumne River (Electra).	26,000
Do.	Butte Creek (De Sabla).	17,300
Do.	Butte Creek (Centerville).	8,500
Do.	Bear River (Drum).	33,300
Total.		122,800

In addition to the developed power plants listed above the company has four developed steam plants, of approximately 94,000 horsepower capacity, and has water-power plants of 190,000 horsepower net ultimate capacity under construction.

Officers and directors, Pacific Gas & Electric Co.—Officers: F. G. Drum, president; J. A. Britton, vice president and general manager; A. F. Hockenbeamer, second vice president and comptroller; D. H. Foote, secretary; James H. Wise, assistant general manager; J. H. Hunt, purchasing agent. Directors: F. B. Anderson, H. E. Bothin, J. A. Britton, W. H. Crocker, E. J. de Sabla, jr., F. G. Drum, J. S. Drum, A. F. Hockenbeamer, John Martin, Louis Sloss, D. H. Foote, G. K. Weeks, W. G. Henshaw, C. O. G. Miller, Samuel Insull.

Control and affiliations.—With one exception the officers and directors of the Pacific Gas & Electric Co. are San Franciscans. The exception is Samuel Insull, of Chicago, whose position on the Commonwealth Edison Co., of Chicago, the Consumers' Electric Light Co., of New Orleans, the Illinois Northern Utilities Co., the Public Service Co. of Northern Illinois, and the Public Securities Co.,

of Chicago, indicates his great prominence in the power field of the Mississippi Valley States. His name is found on two of the holding companies considered in connection with this statement, the United Gas & Electric Corporation and the Public Securities Co. The United Gas & Electric Co., it should be noted, is very closely affiliated with the United Railways Investment Co., which, through the California Railway & Power Co., controls the Sierra & San Francisco Power Co., which also operates in San Francisco and vicinity.

In the Journal of Electricity, Power, and Gas, of March 23, 1912, it is stated:

"Samuel Insull and H. M. Byllesby, heads of a local syndicate, have concluded details of the purchase of 40,000 shares of the 4,000,000 of the common stock of the Pacific Gas & Electric Co. of San Francisco * * *. The stock was sold by the estate of N. W. Halsey. It appears that Insull and his associates have been buying up the common stock of the Pacific Gas & Electric Co. over a considerable period, with a view of gaining a substantial foothold in the gas, electric, and power companies of the Pacific coast. The plans are rather ambitious and the purchase of these shares is merely a start."

The syndicate referred to is probably the Public Securities Co., of Chicago, of which Samuel Insull and H. M. Byllesby were directors at the time of the announcement quoted. The extent of the holdings of Pacific Gas & Electric Co. stock by this syndicate at the present time is not known, but is undoubtedly sufficient to warrant the statement that Mr. Insull is able to exercise a very considerable degree of control over the operations of the company. He is also a director of the American Waterworks & Electric Co., which controls the Great Shoshone & Twin Falls Water Power Co., operating in southern Idaho.

Following the transfer of stock above referred to, a change in the directorate of the Pacific Gas & Electric Co. occurred, three new directors being elected apparently as representatives of the new stockholders.

Stock ownership by a third holding company, discussed in connection with this statement, is clearly indicated by the facts reported in the Commercial and Financial Chronicle, volume 97, page 1586, that the regular quarterly dividend on the preferred stock of the Electric Investment Corporation has been passed because dividends on the common stock of the Pacific Gas & Electric Co. had not been paid during the preceding quarter. The passing of this dividend indicates that a large proportion of the securities held by the Electric Investment Corporation is common stock of the Pacific Gas & Electric Co.

The General Electric Co. is strongly represented on the directorates of the three holding companies that appear to be interested in the Pacific Gas & Electric Co.

Affiliations with other power companies operating in California is indicated in the following manner: (1) John Martin, president of the Coast Counties Gas & Electric Co., is a director in the Pacific Gas & Electric Co. Mr. Martin is also president and director of the Midway Gas Co., on whose directorate he is associated with a director of the Northern California Power Co., Consolidated, and three directors of the Pacific Light & Power Corporation and the San Joaquin Light & Power Corporation and subsidiaries; (2) C. O. G. Miller, president and director of the Pacific Lighting Corporation, is a director of the Pacific Gas & Electric Co.; (3) George K. Weeks, a director of the Pacific Gas & Electric Co., is also director on the Central California Traction Co., a company apparently controlled by the Fleishhackers, of San Francisco, who are heavily interested in the Western Power Co., of California, and the Northwestern Electric Co., operating in Washington and Oregon.

The Pacific Gas & Electric Co. purchases a large proportion of the hydroelectric power output of the Northern California Power Co., Consolidated.

A substantial holding of stocks of the Pacific Gas & Electric Co., the Western Power Co., and the Southern California Edison Co. is owned by the Illuminating & Power Securities Corporation, one of the New York holding companies discussed in connection with this statement.

14. *Western Power Co.*—Incorporated in 1906 in New Jersey. New York office, 25 Broad Street.

Parent and subsidiary companies:

Western Power Co.
- Great Western Power Co. (*a*).
  - Western Power Co. of California (*b*).
  - Eureka Mining Co.
  - California Electric Generating Co. (*a*, *c*).
  - City Electric Co. (*a*).

Water power controlled.	Plant.	Developed horsepower.
California:		
Great Western Power Co.	Butt Creek	1,800
Do	Big Bend	53,300
Total		55,100

In addition the company has a developed steam-power plant in San Francisco of 28,000-horsepower capacity and undeveloped power sites on North Fork of Feather River of about 135,000-horsepower capacity that are proposed for early development. The officers of the company estimate that a total of about 500,000 horsepower can be developed at moderate cost from the water-power sites owned or in part controlled by the company.

Officers and directors, Western Power Co.—Officers: F. Lothrop Ames, president; H. P. Wilson, vice president and secretary; W. H. Spaulding, vice president; F. M. Tompkins, treasurer and assistant secretary; C. E. Mynard, auditor and assistant treasurer. Directors: F. Lothrop Ames, C. F. Ayer, A. C. Bedford, A. W. Burchard, F. H. Davis, H. P. Wilson, B. F. Yoakum, Richard B. Young, Irving W. Bonbright.

Officers and directors, Great Western Power Co.—Officers: Mortimer Fleishhacker, president; Guy C. Earl, Washington Dodge, vice presidents; H. P. Wilson, vice president and secretary; F. M. Tompkins, treasurer and assistant secretary; W. H. Spauling, assistant secretary; C. E. Mynard, auditor and assistant treasurer. Directors: A. C. Bedford, A. W. Burchard, W. S. Crandell, B. H. Dibblee, Washington Dodge, Guy C. Earl, Mortimer Fleishhacker, Chaffee E. Hall, James Irvine, C. E. Mynard, W. H. Spaulding, H. P. Wilson, Richard B. Young.

Officers and directors, California Electric Generating Co.—Officers: Mortimer Fleishhacker, president; Guy C. Earl, Washington Dodge, vice presidents; H. P. Wilson, vice president and secretary; F. M. Tompkins, treasurer and assistant secretary; W. H. Spaulding, assistant secretary; C. E. Mynard, auditor and assistant treasurer. Directors: A. C. Bedford, A. W. Burchard, W. S. Crandell, B. H. Dibblee, Washington Dodge, Guy C. Earl, Mortimer Fleishhacker, Chaffee E. Hall, James Irvine, C. E. Mynard, W. H. Spaulding, H. P. Milson, Richard B. Young.

Control and affiliations.—The directorates of the companies here considered show very close affiliation of the company with interests controlled by the General Electric Co. Four directors of the Western Power Co. are found on the directorates of 11 of the holding companies referred to in this statement. One director of the Western Power Co. is a director and vice president of the Standard Oil Co. of New Jersey.

In addition to affiliations through the 11 holding companies referred to above, the following connections with other power companies operating in California are indicated: (1) R. B. Young, of the firm of E. H. Rollins & Sons, Boston, Mass., and director in the Western Power Co., Great Western Power Co., and California Electric Generating Co., is also a director in the California Railway & Power Co., which controls the Sierra & San Francisco Power Co. through stock ownership. Irving W. Bonbright, a director of the Western Power Co., is also on the directorate of the American Cities Co., with which the Sierra & San Francisco Power Co. and its related companies are closely associated. (2) Mortimer Fleishhacker, president of the Anglo-California Trust Co., of San Francisco, one of the original promoters of the Western Power Co. project, and president and director both of the Great Western Power Co. and the California Electric Generating Co., is also a director of the Central California Traction Co., on whose directorate appears George K. Weeks, of San Francisco, who is a director of the Pacific Gas & Electric Co. Electric power for the operation of the Central California Traction Co. is furnished by the Western States Gas & Electric Co., a subsidiary of the Standard Gas & Electric Co., a Byllesby corporation. (3) The New York office of the Western Power Co. is at 25 Broad Street, which is the address of a number of directors in the companies associated with the Sierra & San Francisco Power Co. This is also the New York address of H. E. Huntington, who controls the Pacific Power & Light Corporation and is heavily interested in other electric light, power, and railway concerns in southern and central California. It is noted that several of the

directors of the Western Power Co. are associated with Mr. Huntington on the directorates of railroad and other corporations.

The Western Power Co. is associated with the Colorado Power Co. through the presence of A. C. Bedford and Irving W. Bonbright on the directorates of both, and with the Portland Railway, Light & Power Co. through the presence of A. C. Bedford on the directorates of both. F. Lothrop Ames, president and director of the Western Power Co., is a director of the Butte Electric & Power Co., a subsidiary of the Montana Power Co., and Mortimer Fleishhacker, president and director of the Great Western Power Co. and California Electric Generating Co., is one of the prime movers in the project of the Northwestern Electric Co. in Washington and Oregon and is on the directorate of that company.

A substantial holding of stocks of the Pacific Gas & Electric Co, the Western Power Co., and the Southern California Edison Co., is owned by the Illuminating & Power Securities Corporation, one of the New York holding companies discussed in connection with this statement.

Officers of the Western Power Co. and subsidiary companies connected with other companies.

				Holding companies, etc.												Operating companies and subsidiaries.				
	Western Power Co.	Great Western Power Co.	California Electric Generating Co.	General Electric Co.	Electric Bond & Share Co.	American Gas & Electric Co.	Electrical Utilities Corporation.	Electrical Investment Corporation.	Federal Utilities (Inc.).	United Utilities Co.	Utah Securities Corporation.	American Power & Light Co.	Federal Light & Traction Co.	Electric Corporation (The)	American Cities Co.	Colorado Power Co.	Montana Power Co.	Northwestern Electric Co.	Sierra & San Francisco Power Co.	Portland Ry., Light & Power Co.
Ames, F. Lothrop	*																*			
Ayer, C. F	*													*						
Bedford, A. C	*	*	*		*		*				*	*				*				*
Bonbright, Irving W	*									*	*				*	*				
Burchard, A. W	*	*	*	*		*	*	*	*			*	*							
Fleishhacker, Mortimer		*	*															*		
Young, R. B	*	*	*																*	

15. *Pacific Light & Power Corporation and San Joaquin Light & Power Co.*—Both companies incorporated in 1910 in California.

The Pacific Light & Power Corporation has hydroelectric plants in San Joaquin Valley and in southern California and distributes power into Los Angeles and other southern California districts. The Pacific Electric Railroad Co. is a large customer.

The San Joaquin Light & Power Corporation has hydroelectric plants in San Joaquin Valley adjacent to those of the Pacific Light & Power Corporation and has control of nearly all of the power and lighting business of San Joaquin Valley. Main office of both companies, 624 Pacific Electric Building, Los Angeles, Cal.

Parent and subsidiary companies:

Pacific Light & Power Corporation (*a*).
- Pacific Light & Power Co. (*b*).
  - San Gabriel Electric Co. (*b*).
- Sierra Power Co. (*a*).
- Electric Power Co. (*a*).
- Mentone Power Co. (*a*).
- Kern River Co. (*a*).
- Southern California Gas Co. (*a*).
  - Domestic Gas Co. (*b*).
  - Riverside Light & Fuel Co. (*b*).
  - San Bernardina Gas & Electric Co. (*b*).
- San Joaquin & Eastern Railroad Co. (*a*).

San Joaquin Light & Power Corporation (*d*).
- San Joaquin Light & Power Co. (*b*).
- Power Transit & Light Co. (*b*).
- Merced Falls Gas & Electric Co. (*b*).
- Tule River Co. (*a*).
- Coalinga Water & Electric Co. (*d*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
California:		
San Joaquin Light & Power Corporation	San Joaquin No. 3	2,700
Do	New San Joaquin	21,000
Do	Bakersfield Canyon	1,780
Pacific Light & Power Co	Borel	13,000
Do	Big Creek No. 1	46,500
Do	Big Creek No. 2	46,500
Do	San Gabriel River	2,000
Do	San Antonio Creek	800
Do	Riverside	800
Do	Highgrove	200
Do	Mentone	2,000
Total		137,280

The Pacific Light & Power Corporation has steam power plants of 62,000 horsepower capacity and controls undeveloped power sites of over 100,000 horsepower.

The San Joaquin Light & Power Co. has two steam plants with a capacity of 35,000 horsepower and also controls undeveloped water-power sites of large aggregate capacity.

Officers and directors, Pacific Light & Power Corporation.—Officers: H. E. Huntington, president; W. E. Dunn, vice president; G. C. Ward, vice president; E. R. Davis, general manager; A. N. Kemp, treasurer and comptroller; J. F. Martyn, secretary. Directors: E. R. Davis, W. E. Dunn, C. E. Graham, H. E. Huntington, Howard Huntington, A. N. Kemp, G. C. Ward.

Officers and directors, Southern California Gas Co.—Officers: W. G. Kerckhoff, president; A. C. Balch, first vice president; Kaspare Cohn, second vice president; L. M. Farnham, secretary; A. E. Peat, treasurer and comptroller. Directors: A. C. Balch, Kaspare Cohn, W. G. Kerckhoff, Donald O'Melveny, Cyrus Peirce.

Officers and directors, San Joaquin Light & Power Corporation.—Officers: W. G. Kerckhoff, president; A. C. Balch, vice president; A. E. Peat, treasurer and comptroller; L. M. Farnham, secretary; W. E. Durfey, assistant secretary; A. G. Wishon, general manager; L. N. Pert, general superintendent. Directors: W. G. Kerckhoff, A. C. Balch, Kaspare Cohn, Donald O'Melvany, M. K. Parker, Ben R. Meyer.

Control and affiliations.—Ninety-eight per cent of the stock of the Pacific Light & Power Corporation is owned by H. E. Huntington, whose large interests in the railroad and power field of California, including control of the Los Angeles Railway Corporation and important holdings in the Southern Pacific Co. and its subsidiaries, are well known. Mr. Huntington is also a director of a number of eastern railroads, is a trustee of the Equitable Trust Co. and a director of the Fourth National City Bank of New York, his New York office being at 25 Broad Street, the headquarters of the California Railway & Power Co. and the Western Power Co.

The present directorates of the Pacific Light & Power Corporation and the San Joaquin Light & Power Corporation have no names in common.

W. G. Kerckhoff, president of the San Joaquin Light & Power Corporation, and Kaspare Cohn were, with H. E. Huntington and others, incorporators of the Pacific Light & Power Corporation. It is noted also that the directorate of the San Joaquin Light & Power Corporation is practically the same as that of the Southern California Gas Co., a subsidiary of the Pacific Light & Power Corporation. There appears to be no good reason to doubt that the companies are closely associated in business, having their offices at the same place and being controlled in the same interests.

Affiliation of the Pacific Light & Power Corporation with the Southern California Edison Co. and other power companies operating in southern California is discussed in connection with the statement relating to the Southern California Edison Co. Other apparent affiliations are as follows:

John Martin, president and director of the Coast Counties Gas & Electric Co., a director of the Pacific & Electric Co. and two of its subsidiaries, is also president and director of the Midway Gas Co., on whose directorate he is associated with three directors of the San Joaquin Light & Power Corporation and Southern California Gas Co. A director of the Midway Gas Co. is also a director of the Northern California Power Co.

The eastern banking agent of the San Joaquin Light & Power Co. is N. W. Halsey & Co., of New York. Three recognized representatives of the Halsey interests are on the directorates of this company or its subsidiaries.

The Equitable Trust Co. of New York and the United States Mortgage & Trust Co. of New York are trustees in connection with bond issues of the Pacific Light & Power Corporation.

16. *Mount Whitney Power & Electric Co.*—Incorporated in 1909 in California. Office, Visalia, Cal. Does a general-power business in Tulare County, Cal., about 90 pr cent of the connected load being for pumping water for irrigation purposes.

Parent and subsidiary companies:

Mount Whitney Power & Electric Co.—
- Mount Whitney Power Co. (*b*).
- Porterville Light & Power Co. (*b*).
- Globe Light & Power Co. (*b*).
- Visalia Gas, Light & Heat Co. (*b*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
California:		
Mt. Whitney Power & Electric Co.	Tule River	2,650
Do.	Kaweah No. 1	1,700
Do.	Kaweah No. 2	2,000
Do.	Kaweah No. 3	3,500
Do.	Kaweah River	1,980
Total		11,830

In addition, a developed steam-power plant of 2,350 horsepower capacity is located at Visalia. Another plant on Kaweah River, with a reservoir to regulate the flow of water for all of the power stations on this stream, is under construction.

Officers and directors Mount Whitney Power & Electric Co.—Officers: J. C. Hays, president and general manager; B. M. Maddox, vice president and manager; E. E. Baker, secretary; S. Mitchell, treasurer; Harris Hammond, vice president. Directors: J. C. Hays, B. M. Maddox, E. E. Baker, S. Mitchell, Harris Hammond.

Control and affiliations.—It is understood on good authority that this company is controlled by John Hays Hammond, of 71 Broadway, New York. In this connection the position of John Coffee Hays as president, general manager, and director, and of Harris Hammond, of 71 Broadway, New York, is significant. The Bankers' Trust Co., of New York, is trustee for the bond issue of the company. Mr. Hays and Mr. Hammond are interested in extensive undeveloped power projects in California.

Direct connection of the Mount Whitney Power & Electric Co. with other operating companies in California or other States is not apparent.

17. *Southern California Edison Co.*—Incorporated in 1909 in California, succeeding the Edison Electric Co., of Los Angeles, which was incorporated in 1902 in Wyoming. Furnishes light and power to Los Angeles, Redlands, and adjacent towns. General office, Edison Building, Los Angeles.

Parent and subsidiary companies:

Southern California Edison Co.—
- Edison Electric Co., of Los Angeles (*b*).
- Santa Barbara Gas & Electric Co. (*a*).
- Long Beach Consolidated Gas Co. (*a*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
California:		
Southern California Edison Co	Kern River No. 1	26,500
Do	Lytle Creek	650
Do	Santa Ana River No. 1	4,000
Do	Santa Ana River No. 2	1,300
Do	Mill Creek No. 1	1,000
Do	Mill Creek No. 2	330
Do	Mill Creek No. 3	4,000
Total		37,780

Three developed steam plants of 77,300 horsepower capacity are also owned and operated by the company. The company also owns undeveloped power sites on Kern River that are capable of ultimately developing about 75,000 horsepower.

Officers and directors, Southern California Edison Co.—Officers: J. B. Miller, president; J. C. Drake, vice president; W. R. Staats, vice president; W. A. Brackenridge, vice president and general manager; R. H. Ballard, secretary and assistant general manager; W. L. Percey, treasurer; B. T. Story, auditor; B. F. Pearson, superintendent; John Otto, purchasing agent. Directors: J. B. Miller, W. A. Brackenridge, G. I. Cochran, J. C. Drake, W. S. Wright, W. R. Staats, A. H. Fleming, J. H. Fisher, A. W. Harris.

Control and affiliations.—Details of direct affiliations of the Southern California Edison Co. with other operating power companies are unknown. There appears never to have been any competition between this company and other companies operating in southern California.

Paul Shoup, president and director of the Pacific Electric Railway Co., a subsidiary of the Southern Pacific Co., largely dominated by H. E. Huntington, who controls the Pacific Light & Power Corporation, was formerly president of the Southern California Edison Co.

In the Commercial and Financial Chronicle, volume 93, pages 60 and 71, it is stated, with reference to the Southern California Edison Co., the Pacific Light & Power Corporation, and the Los Angeles Gas & Electric Corporation, that:

"Excellent relations exist between the three companies, to all of whom the business is profitable." These three companies have cooperated in the negotiations with the city of Los Angeles with reference to the power development and distribution by the city. A plan to purchase the distributing systems of these power companies in the interests of Los Angeles was proposed, but the price asked was considered too high. A bond issue has recently been favorably voted by the city for the purpose of constructing or acquiring its own power and lighting system, and it is reported that condemnation of the distribution system of the Southern California Edison Co. is contemplated.

Eastern banking connections are the Harris Trust & Savings Bank, of Chicago, and N. W. Harris & Co., of New York, represented on the directorate of the Southern California Edison Co. by A. W. Harris, of Chicago.

A substantial holding of stock of the Pacific Gas & Electric Co., the Western Power Co., and the Southern California Edison Co. is owned by the Illuminating & Power Securities Corporation, one of the New York holding companies discussed in connection with this statement.

18. *Nevada-California Power Co.*—Incorporated in 1907 in Wyoming. Main office, Denver, Colo. Operates in eastern and southern California, in Owens River Valley, and in the vicinity of Riverside, Cal.

Parent and subsidiary companies:

Nevada-California Power Co.—
- Nevada Power Mining & Milling Co. (*b*).
- Southern Sierras Power Co. (*a*).
- Hillside Water Co. (*a*).
- Pacific Power Co. (*d*).
  - Hydro-Electric Co. (*b*).
- Silver Lake Power Co. (*d*).
- Mono Power Co. (*d*).

Merger of companies marked (*d*) reported by Delos A. Chappell.

Power controlled.	Developed water power.	
	Plant.	Horsepower.
California:		
Southern Sierras Power Co.	Bishop Creek No. 2	8,000
Do.	Bishop Creek No. 3	9,000
Do.	Bishop Creek No. 4	8,000
Do.	Bishop Creek No. 5	2,000
Do.	Bishop Creek No. 6	2,700
Do.	Mill Creek	4,000
Total		33,700

The Southern Sierras Power Co. has a steam power plant of 12,000-horsepower capacity at San Bernardino, Cal. The companies here considered control a number of undeveloped power sites.

Officers and directors, Nevada-California Power Co.—Officers: Delos A. Chappell, president; Rodney Curtis, vice president; W. E. Porter, secretary; L. C. Phipps, jr., treasurer. Directors: Delos A. Chappell, Rodney Curtis, L. C. Phipps, L. C. Phipps, jr., W. E. Porter, Guilford S. Wood.

Officers and directors, Southern Sierras Power Co.—Officers: Delos A. Chappell, president and general manager; Rodney Curtis, vice president; W. E. Porter, secretary; L. C. Phipps, jr., treasurer. Directors: Delos A. Chappell, L. C. Phipps, jr., W. E. Porter, Guilford S. Wood, A. B. West.

Officers and directors, Pacific Power Co.—Officers: D. A. Chappell, president; A. E. Anderson, vice president; W. N. Chatfield, assistant secretary-treasurer and manager. Directors: G. W. Hendey, A. E. Anderson, James McNab.

Control and affiliations.—Affiliations of these companies with other power companies operating in California or other States is not apparent. The project seems to be controlled by Denver capitalists. The Phipps, formerly in the steel industry at Pittsburgh, appear to be prominent.

Eastern banking connections are the Commercial Trust & Savings Bank of Chicago and the Guaranty Trust Co. of New York. T. S. Hayden of the Commercial Trust & Savings Bank was formerly a director in the Southern Sierras Power Co.

19. *Colorado Springs Light, Heat & Power Co.*—Incorporated in June, 1910, in Colorado. A majority of the stock is owned by the United Gas & Electric Co., which in turn is controlled through stock ownership by the United Gas & Electric Corporation.

Parent and subsidiary companies.—The United Gas & Electric Corporation is a holding company, which controls utilities operating in nine States, in each case through stock ownership. The relation of the Colorado Springs Light, Heat & Power Co. to this organization is as follows:

United Gas & Electric Corporation (incorporated June 6, 1912, in Connecticut).
- Susquehanna Railway Light & Power Co. (*b*).
  - Lancaster County Railway & Light Co.

United Gas & Electric Corporation (*b*) (incorporated Mar. 8, 1912, in Connecticut).
- United Gas & Electric Co. (*a*) (incorporated Dec. 9, 1901, in New Jersey).
  - Altoona Gas & Fuel Co. (*a*).
  - Citizens' Gas & Fuel Co., of Terre Haute, Ind. (*a*).
  - *Colorado Springs Light, Heat & Power Co.*
    - Colorado Springs Electric Co. (*a*).
    - Colorado Springs Light & Power Co. (*d*).
    - Pikes Peak Hydro-Electric Co. (*b*).
    - Empire Water & Power Co. (*a*).
  - Elmira Water, Light & Railroad Co. (*a*).
  - Hartford City Gas Light Co. (*a*).
  - Leavenworth Light, Heat & Power Co.
  - Richmond Light, Heat & Power Co.
  - Union Gas & Electric Co. (Bloomington, Ind.).
  - Wilkes Barre Co.
- Consumers Electric Light & Power Co. (New Orleans).
- Harrisburg Electric Service Co.
- Harrisburg Light & Power Co.
- Houston Gas & Fuel Co.
- International Traction Co. (Niagara Falls).
  - International Railway (*a*).

Power controlled by Colorado Springs Light, Heat & Power Co.

	Developed water power.	
	Plant.	Horsepower.
Colorado:		
Colorado Springs Light & Power Co.	Pikes Peak	3,000
Pikes Peak Hydro-Electric Co.	(?)	.....
Empire Water & Power Co.	(?)	.....

The company is reported to have three hydroelectric-power plants, and the average annual output is approximately 3,600 electrical horsepower. The probable water-wheel capacity of the plants is believed to be about 5,000 horsepower.

Officers of United Gas & Electric Corporation.—President, George Bullock; vice presidents, R. E. Griscom and S. T. Dill; secretary and treasurer, Henry Morgan; assistant secretary and assistant treaurer, M. D. Evans. Directors: R. E. Griscom, S. R. Bertron, George Bullock, Henry Morgan, Harry Bronner, M. J. Dodge, W. B. Joyce, Samuel Insull, S. C. Dunham, G. E. Shaw, F. M. Potts, J. S. Jenks, jr., R. L. Montgomery, John Gribbel, W. W. Griest, George W. Bacon, A. H. Wiggin, A. J. Hemphill, S. Z. Mitchell, John J. Gannon, W. P. G. Harding, F. M. Kirby, Frank A. Sayles, R. Lancaster Williams, and Frank B. Hayne.

Officers and directors of Colorado Springs Light, Heat & Power Co.—President, George Bullock; first vice president, R. W. Chisholm; second vice presi-

dent, S. J. Dill; secretary and treasurer, J. W. Rykter; assistant secretary and assistant treasurer, Henry Morgan; manager, J. F. Dostal. Directors: George Bullock, S. J. Dill, R. W. Chisholm, R. H. Holland, C. S. Fertig, J. W. Rykter, J. A. Hayes, Henry Morgan, and M. J. Dodge.

Control and affiliations.—As above stated, the Colorado Springs Light, Heat & Power Co. is a subsidiary of the United Gas & Electric Co., which is one of the large holding companies discussed in connection with this statement. As is elsewhere indicated, the company is closely affiliated with the General Electric interests and may be regarded as controlled by them.

20. *Idaho Railway Light & Power Co.*—Incorporated November 23, 1911, in Maine. Main office, Boise, Idaho; New York office, 5 Nassau Street.

Subsidiary companies.—This company was formed for the purpose of consolidating hydroelectric and traction properties in southwestern Idaho. At the time of its formation the new company was stated to have acquired a majority of the common and preferred stock of the Idaho-Oregon Light & Power Co. as well as a large amount of its bonds. The merger plan was, however, opposed by other bondholders of the Idaho-Oregon Light & Power Co., and the financial plan arranged by the syndicate which formed the new company has not been carried out. The Idaho-Oregon Power Co. was placed in the hands of a receiver in December, 1913. The Idaho Railway Light & Power Co. is recently reported to have secured an option on the properties of the Idaho Power & Light Co., which furnishes power in Boise in competition with the Idaho-Oregon Co. The Idaho Power & Light Co. is controlled by the Beaver River Power Co., of which L. L. Nunn is president. The option price is reported by the Chronicle (Dec. 13, 1913, vol. 97, p. 1736) to have been $1,350,000. It is understood, however, that this purchase has not been perfected because of questions of title to the Nunn properties.

The companies involved in the merger are the following:

Idaho Railway Light & Power Co.
- Boise & Interurban Railway (*b*).
- Boise Railroad Co. (Ltd.) (*b*).
- Boise Valley Railway Co. (*b*).
- Caldwell Power Co. (*b*).
- Dewey Electric Light & Power Co. (Ltd.) (*b*).
- Swan Falls Power Co. (*b*).
- Crane Falls Irrigation & Power Co. (*a*).
- Idaho-Oregon Light & Power Co. (*a*).
  - Boise-Payette River Electric Power Co. (*a*).
  - Capital Electric Light, Motor & Gas Co. (*a*).
  - Electric Power Co. (Ltd.) (*a*).
  - Interstate Light & Water Co. (*a*).
- Idaho Consolidated Power & Utilities Co. (*d*).
- Idaho Power & Light Co. (option).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Idaho:		
Idaho Railway Light & Power Co	Swan Falls	10,800
Idaho-Oregon Light & Power Co	Horseshoe Bend	2,000
Do	Boise River (Boise)	3,200
Do	Boise River (Barber)	1,200
Reclamation Service (purchased)		2,175
Total		19,375

The companies also have partly completed development at Crane Falls (20,000 horsepower) and at the Oxbow (ultimate capacity 37,000 horsepower). Two hundred and fifty thousand dollars receiver's certificates are to be issued by the Idaho-Oregon Co. for the installation of 4,000 horsepower at the latter site. The ultimate capacity of the Swan Falls plant is stated to be 12,000 horsepower, and a site on Salmon River at which 20,000 horsepower can be developed is also stated to be controlled. The ultimate water power development involved in therefore nearly 100,000 horsepower.

Officers.—President, William Mainland; secretary and treasurer, G. E. Hendee; managing director, R. W. Watson. Directors: Samuel L. Fuller, Stacy C. Richmond, John D. Ryan, Charles H. Sabin, Albert H. Wiggin, R. W. Watson, William Mainland, Sinclair Mainland, A. E. Thompson, R. H. Burtis, Grant Fitch.

Control and affiliations.—The directorate of the Idaho Railway, Light & Power Co. is composed of three principal elements: The first group, consisting of William Mainland, Sinclair Mainland, A. E. Thompson, and R. N. Burtis, of Oshkosh, and Grant Fitch, of Milwaukee, Wis., represents the management and ownership of the Idaho-Oregon Light & Power Co. Samuel Fuller, of Kissel, Kinnicutt & Co., 14 Wall Street, New York City, and Stacy C. Richmond, of Winslow, Lanier & Co., 59 Cedar Street, New York City, apparently represent the bond houses which will doubtless market two proposed new bond issues to be floated by the Idaho Railway, Light & Power Co., by which additional capital is to be secured. R. W. Watson, of 14 Wall Street, New York City, is vice president and managing director of the Idaho-Oregon Light & Power Co. and the Idaho Railway, Light & Power Co.

The three remaining directors, John D. Ryan, Charles H. Sabin, and Albert H. Wiggin, represent the powerful financial group in New York City which has apparently acquired control of these properties. They are represented on other directorates as follows:

John D. Ryan, president and director, Amalgamated Copper Co.; director, Anaconda Copper Mining Co.; director, Chicago, Milwaukee & St. Paul Railway Co.; president and director, Montana Power Co.; director, Guaranty Trust Co.

Charles H. Sabin, director, Federal Utilities (Inc.); director, Montana Power Co.; vice president and director, Great Falls Power Co.; director, Southern Idaho Light, Heat & Power Co.; vice president and director, Guaranty Trust Co.

Albert H. Wiggin, director, Federal Utilities (Inc.); director, United Gas & Electric Corporation; director, American Cities Co.; director, Electric Properties Co.; director, Westinghouse Electric & Manufacturing Co.; director, Montana Power Co.; member of reorganization committee and voting trustee, American Waterworks & Electric Co.; director, Philadelphia Co.; director, Guaranty Trust Co.; director, Bankers' Trust Co.; president and director, Chase National Bank.

It should be noted that these three directors are all directors of the Guaranty Trust Co., of New York City, a bank which appears as trustee in practically all reorganizations financed by the General Electric Co. These three directors are also connected with four securities holding companies, and are closely associated with the Montana Power Co. and the American Waterworks & Electric Co., which occupy adjoining territory.

The connection of Albert H. Wiggin with the Idaho Railway, Light & Power Co. and the American Waterworks & Electric Co. may foreshadow further mergers of water-power properties in southern Idaho. In this connection, the formation of the Southern Idaho Light, Heat & Power Co., a $20,000,000 Maine corporation, of which Sabin is a director, and of the Idaho Consolidated Power & Utilities Co., of Delaware, which was incorporated on November 11, 1912, through the law firm of Guggenheimer, Untermyer & Marshall, of 37 Wall Street, New York City, appears to be significant.

21. *American Waterworks & Electric Co.*—Incorporated in Virginia, April 27, 1914, as successor of the American Water-Works & Guaranty Co. Capital stock, $25,000,000. Purchased the properties of the former company at receiver's sale April 15, 1914, for $1,250,000. Stock held in a voting trust for five years.

Subsidiary companies.—The company has a large number of subsidiaries. Those operating in the territory under consideration are the following:

Great Shoshone & Twin Falls Water Power Co. (*a*).
- Thousand Springs Power Co. (*c*).
- Southern Idaho Water Power Co. (*a*).
  - American Falls Power, Light & Water Co. (*b*).
  - Pocatello Electric Light & Water Co. (*b*).
  - Blackfoot Power & Water Co. (*b*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Idaho:		
Great Shoshone & Twin Falls Water Power Co.	Shoshone Falls	4,140
Do	Lower Salmon	7,300
Thousand Springs Power Co.	Thousand Springs	3,000
Idaho Consolidated Power Co.	American Falls	2,000
Total		16,440

The company has also partly constructed a plant at Upper Salmon Falls with an ultimate capacity of 35,000 horsepower, and claims an interest in other important sites on Snake River. The ultimate capacity of these sites is estimated at 140,000 horsepower.

Officers.—The officers of the reorganized company, so far as announced, are the following: President, H. Hobart Porter; voting trustees, A. H. Wiggin, E. C. Converse, William Nelson Cromwell, Howland Davis, Andrew Squire. Directors, Guy E. Tripp, Samuel Insull, J. D. Mortimer, William B. Schiller, J. B. Finley, A. H. Wiggin, H. Hobart Porter, E. C. Converse, William Nelson Cromwell, Robert Wetherill, Charles R. Scott, Theodore Revillon, H. C. Huffer, jr., H. J. De Lancy Meijer, Andrew V. Storer, Charles H. Payson, Henry Russell Platt, and Henry H. Pierce.

Control and affiliations.—The reorganization of the American Waterworks & Guarantee Co., as a result of the failure of the First-Second National Bank of Pittsburgh, has eliminated from the affairs of the company the firm of J. S. & W. S. Kuhn. The refinancing of the company was handled by the Bankers Trust Co. of New York, and a new directorate chosen. The new stock issues are held in a voting trust consisting of A. H. Wiggin, E. C. Converse, William Nelson Cromwell, Howland Davis, and Andrew Squire.

The present directorate is apparently closely affiliated with the North American Co., a holding company controlling a large number of public-service properties in the Central West. The directors of the North American Co. include, in addition to J. D. Mortimer, W. N. Cromwell, and H. H. Pierce, the following, who are closely identified with General Electric interests: E. M. Bulkley, C. A. Coffin, and James Campbell. The New York banking connections of the company indicate also a close affiliation with the General Electric Co.

The company has directors in common with four Western operating power companies and with the holding companies of two others. These relations are indicated in the following table:

Officers of the American Waterworks & Electric Co. connected with other companies.

	American Waterworks & Electric Co.	Holding companies, etc.							Operating companies and subsidiaries.			
		Federal Utilities (Inc.).	Utah Securities Corporation.	Public Securities Co.	United Gas & Electric Corporation.	Federal Light & Traction Co.	North American Co.	Electric Properties Co.	Puget Sound Traction, Light & Power Co.	Pacific Gas & Electric Co.	Idaho Railway, Light & Power Co.	Portland Railway, Light & Power Co.
Tripp, Guy E.	*							*	*			
Insull, Samuel	*			*	*					*		
Mortimer, J. D.	*		*				*					
Wiggin, A. H.	*	*			*			*			*	*
Porter, H. Hobart	*					*						
Cromwell, William N.	*						*					
Pierce, Henry H.	*						*					

22. *Washington Water Power Co.*—Incorporated in 1889, in Washington. Offices, Spokane, Wash.

Subsidiary companies:

Washington Water Power Co.—
- Spokane Street Railway Co. (*b*).
- Edison Electric Illuminating Co. of Spokane (*b*).
- Spokane Cable Railways Co. (*b*).
- Spokane Electric Railway Co. (*b*).
- Falls City Land & Improvement Co. (*b*).
- Ross Park Street Railway Co. (*b*).
- City Park Transit Co. (*b*).
- Idaho-Washington Light & Water Co. (*a*).
- Big Bend Power Co. (*b*).
- Post Falls Power Co. (*b*).
- Arlington Heights Motor Railway Co. (*c*).
- Big Bend Light & Power Co. (*b*).
- Lewiston-Clarkston Improvement Co. (in part) (*b*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Washington:		
Washington Water Power Co.	Long Lake	90,000
Do	Little Falls	36,000
Do	Spokane	15,800
Idaho: Washington Water Power Co.	Post Falls	15,000
Total		156,800

The company has also filed application for rights of way across public land for an additional site on Spokane River, and for several sites on the St. Joe River. These sites will total approximately 50.000 horsepower. The company has a steam auxiliary plant in Spokane with a capacity of 19,000 horsepower. The power in which the company is interested thus totals about 225,000 horsepower.

Officers and directors.—Officers: D. L. Huntington, president; W. J. C. Wakefield, chairman of executive committee and first vice president; H. L. Bleecker, second vice president; W. A. White, vice president; F. Lyman, vice president; H. T. White, vice president; A. F. S. Steele, secretary; C. S. MacCalla, general manager; Y. M. White, treasurer; G. Duval, assistant secretary and assistant treasurer; W. I. Frothingham, assistant secretary and assistant treasurer; B. F. Seaver, assistant secretary and assistant treasurer. Finance committee: W. A. White, Frank Lyman, H. T. White, F. S. Bangs, T. F. Hicks, Philip Cabot, D. L. Huntington. Executive committee: L. M. Davenport, W. J. C. Wakefield, N. F. Essig, W. S. McCrea, J. P. M. Richards. Trustees: W. A. White, W. I. Frothingham, F. S. Bangs, Frank Lyman, T. F. Hicks, H. T. White, Johnathan Bulkley, O. F. Zollikoffer, B. B. Lawrence, Guy Duval, E. G. Merrill, Philip Cabot, D. L. Huntington, J. P. M. Richards, W. J. C. Wakefield, N. F. Essig, L. M. Davenport, W S. McCrea, B. F. Seaver.

Control and affiliations.—So far as public information indicates, the Washington Water Power Co. is independent of other water-power interests. A large number of its officers and directors are Spokane men, and a recent report of the company states that 300 out of 1,275 stockholders live in Spokane and vicinity.

Its eastern affiliations appear to be with the firm of W. A. & A. M. White, of 5 Nassau Street, which is the address of White, Weld & Co., brokers, who handle the company's securities in New York City. Members of this firm and Frank Lyman are directors in several Brooklyn banks, including the Brooklyn Trust Co., the Brooklyn Savings Bank, and the Nassau National Bank of Brooklyn. Lyman is also a trustee of the United States Trust Co. The Brooklyn Trust Co. is the largest bank in Brooklyn, having assets of about $30,000,000. Frank Lyman is also a director of the United States Trust Co., of New York City. and on this directorate is associated with Ogden Mills and William Rockefeller, thus establishing a connection with strong New York financial interests.

Whether or not this independence will continue is made questionable if a recent report is accurate. It is stated under date of February 11, 1913, that—

"The Chicago, Milwaukee & St. Paul Railway plans to purchase the Washington Water Power Co., using the four power plants of the latter to furnish power for the electrification of the Milwaukee main line between Avery, Idaho, and the Columbia River and for the development of an extensive system of interurban feeders radiating from Spokane.

"This is the project which is being worked out in connection with the electrification of the main line between Hawlowtown, Mont., and the coast.

"The plan contemplates the consolidation of the city lines of the Washington Water Power Co. and the Spokane Traction Co., to be taken over by a holding company, and a distinct and separate corporation which will be friendly to both the Rockefeller and Hill lines. The interurban system of the Spokane & Inland will remain with the Hills."

This information is in a measure confirmed by an interview with W. A. White, published in the Spokane Spokesman-Review under date of February 6, 1913, in which he stated that "it was the aim of the company to furnish power to the Chicago, Milwaukee & St. Paul Railway Co. for the electrification of its line from Avery, Idaho, to the Columbia River, as well as for the Cœur d'Alene line if the company decides to electrify that line."

23. *Montana Power Co., The.*—Incorporated in 1912 in New Jersey. General office, 71 Broadway, New York City.

Subsidiary companies:

The Montana Power Co.
- Butte Electric & Power Co. (*a* or *b*):
  - Madison River Power Co. (*a*).
  - Billings & Eastern Montana Power Co. (*a*).
- Missouri River Electric & Power Co. (*a* or *b*).
  - United Missouri River Power Co. (*a*).
    - Missouri River Power Co. (*a*).
    - Helena Power Transmission Co. (*a*).
    - Capital City Power Co. (*a*).
- Great Falls Water Power & Townsite Co. (*a*).
  - Great Falls Power Co. (*a*).
- Thompson Falls Power Co. (*a*).
- Montana Reservoir & Irrigation Co. (*a*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Montana Power Co.	Thompson Falls	40,000
Do.	Big Hole	4,000
Do.	Madison River No. 2	12,000
Do.	Madison River No. 1	3,000
Do.	Livingston	2,000
Do.	Billings	2,000
Do.	Canyon Ferry (Missouri River).	10,000
Do.	Hauser Lake (Missouri River).	19,000
Do.	Holter (Missouri River)	47,000
Do.	Rain Bow Falls (Missouri River).	36,000
Do.	Black Eagle Falls	8,000
Do.	Prospect Creek	1,000
Total		184,000
Anaconda Copper Mining Co.		1,500
Missoula Light & Water Co.		4,000
Total Montana Power Co.'s system		189,500

The Montana Power Co. also controls 149,000 horsepower undeveloped water power, largely at two additional sites near Great Falls, and has a steam reserve of 6,000 horsepower. The total power controlled by the company is therefore 344,500 horsepower.

Officers and directors.—Officers: John D. Ryan, president; Max Hebgen, vice president; Alfred Jaretzki, vice president; Frederick Strauss, vice president; C. R. McCabe, vice president; H. F. Krayer, secretary; P. E. Bisland, treasurer. Directors: John D. Ryan, Max Hebgen, Alfred Jaretzki, Frederick Strauss, Charles H. Sabin, A. H. Wiggin, S. Z. Mitchell, Charles Martin Clark, C. A. Coffin, George F. Canfield, William E. Corey, Gardiner M. Lane, Marcus Daly, John G. Marony, W. D. Thornton, Thomas F. Cole, J. G. Schmidlapp, W. K. Whigham.

Officers and directors Great Falls Power Co.—Officers: John D. Ryan, president; C. W. Wetmore, Charles H. Sabin, C. R. McCabe, vice presidents; John G. Marony, vice president; P. E. Bisland, secretary-treasurer; H. F. Kroyer, assistant secretary and assistant treasurer; Max Hebgen, general manager; Frank Scotten, superintendent. Directors: J. D. Ryan, Marcus Daly, Alfred Jaretzki, George F. Canfield, C. H. Sabin, H. F. Kroyer, C. W. Wetmore, S. Z. Mitchell, A. H. Wiggin, P. E. Bisland, John G. Marony, C. F. Kelley.

Control and affiliations.—The Montana Power Co. and its subsidiary, the Great Falls Power Co., are closely affiliated with the General Electric Co. and its subsidiary holding companies. Three directors of the Montana Power Co. are also directors of the Electric Bond & Share Co., and one is a director of the General Electric Co. The general offices of the company and of the Electric Bond & Share Co. are at 71 Broadway, New York City. Six directors of the Montana Power Co. are also on the directorates of other holding companies referred to in this statement.

A. H. Wiggin is also a director of the Philadelphia Co., a subsidiary of the United Railways Investment Co.; a director, prior to the receivership, of the Idaho Railway Light & Power Co.; and is a member of the reorganization committee, and a voting trustee of the American Waterworks & Electric Co. S. Z. Mitchell is also a member of the executive committee of the Utah Securities Corporation, of the reorganization committee of the Colorado Power Co., a director of the Pacific Power & Light Co., of two subsidiaries of the Puget Sound Traction Light & Power Co., and of the Sierra & San Francisco Power Co., which is also a subsidiary of the United Railways Investment Co.

Frederick Strauss is a director of the Portland Railway, Light & Power Co. and the Utah Securities Co. Charles H. Sabin, on the directorate of the Great Falls Power Co., is also a director of the Southern Idaho Light, Heat & Power Co., an important subsidiary of the American Waterworks & Electric Co., and of the Idaho Railway Light & Power Co. The Montana Power Co. and its subsidiary thus have directors on the boards of eight other important western water-power companies, and in six cases two or more directors.

The affiliation of the Montana Power Co. with the Anaconda Copper Mining Co. is close. John D. Ryan is president of the Montana Power Co., and owns about half the stock of the Great Falls Power Co. He is also president of the Amalgamated Copper Co., which controls the Anaconda Copper Mining Co. by stock ownership. For all practical purposes these interests may be regarded as identical. The Montana Power Co. controls the Billings & Eastern Montana Power Co., which, while serving a considerable portion of eastern Montana, develops no water power.

The Missoula Light & Water Co. is apparently controlled by W. A. Clark, who also controls the Butte Electric Railway. Clark formerly controlled the United Missouri Power Co., but this interest in the power company was taken over by the Montana Power Co. at about the same time that the Amalgamated acquired from him important copper mines at Butte. The Butte Electric Railway secures its power from the Montana Power Co., and for all practical purposes the small water-power development of the Anaconda Copper Mining Co. may be regarded as a part of the Montana Power Co.'s system.

Officers of the Montana Power Co. and Great Falls Power Co. connected with other companies.

				Holding companies, etc.									Operating companies.								
	Montana Power Co.	Great Falls Power Co.	Anaconda Copper Mining Co.	General Electric Co.	Electric Bond & Share.	Electrical Securities Corporation.	Federal Utilities (Inc.).	Utah Securities Corporation.	United Gas & Electric Corporation.	Electric Properties Co.	Chicago, Milwaukee & St. Paul.	United States Steel Corporation.	Puget Sound Traction, Light & Power Co. and subsidiaries.	Utah Power & Light Co.	Pacific Power and Light Co.	Colorado Power Co.	Sierra & San Francisco Power Co.	Idaho Railway, Light & Power Co.	American Waterworks & Electric Co. and subsidiaries.	Portland Railway, Light & Power Co.	Philadelphia Co.
Ryan, John D	*	*	*								*										
Strauss, Frederick	*				*			*												*	
Wiggin, A. H	*	*					*		*	*								*	*		*
Mitchell, S. Z	*	*			*			*	*				*	*	*	*	*				
Coffin, C. A	*			*	*	*															
Canfield, George F	*	*																			
Corey, William E	*											*									
Lane, Gardiner M	*											*									
Schmidlapp, J. G	*					*															
Sabin, Chas. H		*					*											*	*		
Kelley, C. F		*	*																		

24. *Portland Railway, Light & Power Co.*—Incorporated in 1906 in Oregon. Office: Portland, Oreg.

Subsidiary companies:

Portland Railway, Light & Power Co.:
- Portland Railway Co. (*b*).
- Portland General Electric Co. (*b*).
- Oregon Water Power & Railway Co. (*b*).
- Mount Hood Railway & Power Co. (*b*).
- Yamhill Electric Co. (*b*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Oregon:		
Portland Railway, Light & Power Co.	Oregon City	9,640
Do	Cazadero	19,000
Do	Silverton	333
Do	River Mill	18,150
Do	Bull Run	15,000
Total		62,123

The company has also under construction an additional hydroelectric plant with a capacity of 30,000 horsepower, and has five steam plants with a capacity of 32,900 horsepower, a total developed and undeveloped of 125,000 horsepower.

Officers.—Franklin T. Griffith, president; F. I. Fuller, M. S. Hopkins, E. W. Clark, H. L. Clark, vice presidents; G. L. Estabrook, secretary and assistant treasurer; C. N. Huggins, treasurer and assistant secretary; R. W. Shepherd, assistant secretary; William Lilley, assistant secretary and assistant treasurer; F. W. Hild, general manager.

Executive committee.—C. M. Clark, chairman; Frederick Strauss; A. C. Bedford; Ogden Mills.

Directors.—F. I. Fuller, C. F. Swigert, F. V. Holman, T. B. Wilcox, W. M. Ladd, J. C. Ainsworth, F. T. Griffith, Ogden Mills, Frederick Strauss, A. C. Bedford, C. M. Clark, H. L. Clark.

Control and affiliations.—Of the 12 directors of the Portland Railway Light & Power Co. 7 are Portland men and only 1, J. C. Ainsworth, is identified with other power companies, he being also a director of the Pacific Power & Light Co. Two directors, Herbert L. and Clarence M. Clark, and E. W. Clark, vice president, are members of the firm of E. W. Clark & Co., of Philadelphia, a banking and bond house closely associated with a number of the largest Philadelphia banks.

The influence of the Electric Bond & Share Co. is indicated by the fact that the three New York directors of the company are Frederick Strauss, A. C. Bedford, and Ogden Mills, these three directors and C. M. Clark forming the executive committee. Strauss is a director of Electric Bond & Share Co., the Utah Securities Corporation, and the Montana Power Co. Bedford is a director of Electric Bond & Share Co., the Utah Securities Corporation, the American Power & Light Co., and the Electrical Utilities Corporation, as well as vice president of the Standard Oil Co. of New Jersey. In addition, he is connected with the Colorado Power Co., the Western Power Co. and its subsidiary, the Great Western Power Co. Ogden Mills is not directly connected with other western power companies, but is a director of the Southern Pacific Co. and thus associated with H. E. Huntington. He is also a director of the Niagara Falls Power Co., which is generally regarded as controlled by the General Electric Co.

The proportion of the stock of the Portland Railway Light & Power Co. controlled by the General Electric Co. and its subsidiary holding companies is not known, but the importance of its holding may be inferred from the fact that three of the four members of the executive committee are General Electric men. This fact clearly indicates that the Electric Bond & Share Co. exercises a controlling interest in the affairs of this company.

25. *Utah Light & Railway Co.*—Incorporated in 1904 in Utah. Office, Salt Lake City, Utah. The Oregon Short Line Railroad owns 95 per cent of the

common and 99 per cent of the preferred stock. The Oregon Short Line is controlled by the Union Pacific Railroad Co. by stock ownership.

Subsidiary companies:

Utah Light & Railway Co.
- Utah Light & Power Co. (*d*).
- Utah Power Co. (*d*).
- Consolidated Railway & Power Co. (*d*).
- Salt Lake Public Service Co. (*d*).

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Utah:		
Utah Light & Railway Co.	Stairs	2,100
Do	Granite	4,000
Do	Pioneer	4,000
Do	Devils Gate	3,300
Total		13,400

The company also has steam plants with a capacity of 13,000 horsepower, giving a total power capacity of 26,410 horsepower. The company is a large purchaser of power from the Utah Power & Light Co.

Officers and directors, Utah Light & Railway Co.—Officers: W. H. Bancroft, president; P. L. Williams, first vice president; W. S. McCornick, second vice president; G. S. Gannett, treasurer; F. H. Knickerbocker, secretary; J. S. Wells, general manager; Will Browne, auditor; George H. Robison, purchasing agent. Directors: W. H. Bancroft, P. L. Williams, W. S. McCornick, L. S. Hills, T. G. Webber, Will Browne, D. E. Burley, W. W. Riter, H. M. Wells.

Officers and directors, Union Pacific Railroad Co.—Officers: Robert S. Lovett, chairman executive committee; A. L. Mohler, president; C. B. Seger, vice president and comptroller; Charles Ware, vice president and general manager; J. A. Munroe, vice president in charge of traffic; W. V. S. Thorne, director of purchases; Alex. Millar, secretary; F. V. S. Crosby, treasurer; Thomas Price, assistant secretary; N. H. Loomis, general solicitor; W. H. Sanford, assistant treasurer; George C. Smith, purchasing agent; E. H. Wood, freight traffic manager; Gerrit Fort, passenger traffic manager; H. J. Stirling, auditor. Executive committee: Robert S. Lovett, chairman; Mortimer L. Schiff, Marvin Hughitt, Frank A. Vanderlip, William Rockefeller, Otto H. Kahn. Directors: Robert W. Goelet, Robert, S. Lovett, Charles A. Peabody, William G. Rockefeller, Frank A. Vanderlip, W. V. S. Thorne, William Rockefeller, Frank Trumbull, William A. Harriman, A. J. Earling, Marvin Hughitt, Oliver Ames, Otto H. Kahn, Mortimer L. Schiff, Jospeh F. Smith.

Control and affiliations.—As above indicated, the Utah Light & Railway Co. is practically owned by the Oregon Short Line Railroad, a subsidiary of the Union Pacific Railroad Co. Its only direct affiliation with other western power companies is through the presence of W. S. McCornick, of McCornick & Co., bankers, Salt Lake City, on its directorate and on that of the Utah Power & Light Co.

Oliver Ames, a director of the Union Pacific Railroad Co. and of the Oregon Short Line, is also a director of the General Electric Co. and of the Eelectric Corporation. Samuel Carr, of the Oregon Short Line, is a director of the United Electric Securities Corporation.

The transmission lines of the Utah Light & Railway Co. are physically connected with those of the Utah Power & Light Co., and the interests involved have a complete working agreement in the territory served. The two holding companies, the General Electric Co. and the Union Pacific Railroad Co., have, as above stated, one director in common.

How closely the General Electric Co. may be related to the Union Pacific, through the Standard Oil Co., need not be analyzed in this connection. It may, however, be noted that A. C. Bedford, of the Standard Oil Co., of New Jersey, is a director of the Electric Bond & Share Co., and that William Rockefeller is a director of the Union Pacific Railroad. The connection between these large interests passes out of the public-utilities field.

26. *Great Northern Railway Co.*—Incorporated under present title in Minnesota in 1889. General office, St. Paul, Minn. New York office, 32 Nassau Street.

Subsidiary companies.—The only subsidiary company of the Great Northern engaged in water-power development is its Spokane & Inland Empire Railroad. On June 30, 1912, the Great Northern owned $3,465,250 common and $1,083,350 preferred stock of this company. It also owns $500,000 stock of the Chelan Electric Co., which owns a power site on the Chelan River.

Power controlled.	Developed water power.	
	Plant.	Horsepower.
Washington:		
Great Northern Ry. Co.	Clealum	250
Do	Wenatchee River	8,000
Spokane & Inland Empire R. R.	Nine Mile	22,000
Total		30,250

The undeveloped water power of Chelan River controlled by the Great Northern has been estimated at 80,000 horsepower, a total of 110,000 horsepower controlled by the Great Northern interests.

Officers of Great Northern Railway Co.—Officers: Louis W. Hill, chairman of board; C. R. Gray, president; L. C. Gilman, assistant to president; R. A. Jackson, vice president and general counsel; R. I. Farrington, vice president; E. T. Nichols, vice president and treasurer; W. P. Kerney, vice president; J. M. Gruber, vice president; L. E. Katzenbach, secretary. Directors: James J. Hill, Louis W. Hill, Frederick Weyerhaeuser, Carl R. Gray, William B. Dean, Richard A. Jackson, Samuel Thorne, Edward T. Nichols, William H. Dunwoody.

Officers of Spokane & Inland Empire Railroad Co.—Officers: J. H. Young, president; C. A. Coolidge, first vice president and general manager; Waldo G. Paine, second vice president and traffic manager; W. G. Davidson, secretary and treasurer; H. B. Ferris, comptroller; R. C. Bowdish, superintendent inland and Coeur d'Alene divisions; F. C. Farr, superintendent traction division; C. L. Bankson, purchasing agent; R. Budd, chief engineer. Directors: J. H. Young, F. V. Brown, G. T. Reid, F. B. Grinnell, W G. Graves, Aaron Kuhn, C. A. Coolidge.

Control and affiliations.—The interest of the Great Northern in water power is apparently solely from the traction standpoint and the company and its subsidiaries are apparently not allied with public-service corporations serving the communities along the Great Northern lines. The Chelan site is said to be held for the ultimate electrification of its lines. The Electrical Review and Western Electrician of April 12, 1913, reports as follows:

"Wenatchee, Wash.—R. Herzog, chief hydraulic engineer of the Great Northern Railroad, is authority for the statement that within three weeks actual construction will begin on the Chelan River power site, a $7,000,000 project. The plant when completed will develop between 80,000 and 100,000 horsepower, which will be sufficient to electrify the upriver branch of the Great Northern and its main line east of the Cascade Mountains to Spokane. The Chelan Electric Co. is the ostensible owner of the project, but this is merely a subsidiary company of the Great Northern."

27. *Northwestern Electric Co.*—Incorporated in 1911 in Washington. Main office, San Francisco, Cal.

The Northwestern Electric Co. has constructed a hydroelectric plant of about 20,000 horsepower capacity on White Salmon River, Wash., and a steam plant of about 10,000 horsepower capacity at Portland, Oreg., is under construction. Undeveloped power sites of large capacity on White Salmon and Lewis Rivers, Wash., are controlled in whole or in part by the company.

Herbert and Mortimer Fleishhacker, William H. Crocker, and Antoine Borel, of San Francisco, were incorporators of the company. Mortimer Fleishhacker is its president, and Herbert Fleishhacker its vice president. The two Fleishhackers and R. E. Wallace are the trustees; B. C. Condit is manager.

The Northwestern Electric Co. is evidently controlled by the Fleishhacker interests, and through the Fleishhackers, William H. Crocker, and R. E

Wallace, affiliations with the Pacific Gas & Electric Co., the Western Power Co., and Central California Traction Co., of California, are evidenced. William H. Crocker is also a director of the Equitable Trust Co., of New York. The Fleishhackers have promoted several power projects in California, and from a review of the history of these projects it appears likely that the Northwestern Electric Co., which is now apparently a competitor of the Portland Railway Light & Power Co., in the Portland market, will within a comparatively short time become closely affiliated with that company or with the Stone & Webster companies, of the Puget Sound district. The plant of the company on White Salmon River was constructed by Stone & Webster.

28. *Beaver River Power Co.*—Incorporated in 1908 in Colorado. Office, Beaver, Utah.

Subsidiary companies:

Beaver River Power Co.
- Annie Laurie Mining Co. (*d*).
- Salt Lake Power & Milling Co. (*d*).
- Gunnison Valley Power Co. (*d*).
- Idaho Power & Light Co. (*a*).

Power controlled.	Water power developed.	
	Plant.	Horsepower.
Utah:		
Beaver River Power Co	Beaver	805
Do	Fish Creek	350
Do	Salina	80
Do	Manti	475
Idaho:		
Idaho Power & Light Co	Malad River	7,500
Total		9,210

Officers and directors.—L. L. Nunn, president; L. B. Fuller, vice president and general manager; S. A. Bailey, secretary; W. L. Biersach, treasurer; A. D. Smith, purchasing agent; A. B. Blainey, superintendent. Directors: L. L. Nunn, E. P. Bacon, L. B. Fuller, W. L. Biersach, A. D. Smith, W. C. Cates, S. A. Bailey.

Control and affiliations.—The Beaver River Power Co. was originally incorporated by interests closely allied to the Telluride Power Co. As a result of a change in the management of the Telluride Power Co. and its incorporation in the Utah Power & Light Co., Nunn and associates were ousted from the management of the important water-power properties in Utah. They, however, retained control of the Beaver River Power Co. and its subsidiary, the Idaho Power & Light Co. The latter company transmits power into the city of Boise in competition with the Idaho Railway, Light & Power Co. and the Idaho-Oregon Power Co. As is noted in the discussion of these companies, an option has been secured upon the Malad River plant, and it is possible that this plant may be incorporated in the system of the Idaho Railway, Light & Power Co. The Utah plants of the Beaver River Power Co. are all unimportant and supply small isolated communities.

Municipal and Government plants.—The power developed by municipalities is largely the output of two plants, that of the city of Tacoma, capacity 32,000 horsepower, and of Seattle, capacity 20,800 horsepower. Five towns in Utah have plants with a total capacity of 3,700 horsepower.

The city of Los Angeles has in operation three small plants, with a capacity of 3,000 horsepower, and has voted a large bond issue for the development of power in connection with the aqueduct. The city of Idaho Falls has a plant on the Snake River, which is reported to have a capacity of 8,200 horsepower.

The Reclamation Service acts as a public utility in connection with the power developed at the Minidoka Dam, capacity of plant 10,000 horsepower. The surplus power developed at the Boise dam and that developed at the Roosevelt Dam is sold to private distributing companies, and is so indicated in the previous statements. The Spanish Fork, Utah, plant is understood to be at the present time used entirely to supply power for construction purposes.

The following table summarizes the statements of developed water power given above. The totals given are in practically every instance somewhat larger

than the recently published census figures and indicate an increase in development in the last two years. While absolute accuracy has not been attempted, it is believed that the items given present a close estimate of the developed water power in the Western States at the present time.

Distribution of developed water power in the Western States.

No.	Company.	Arizona.	California.	Colorado.	Idaho.	Montana.
1	Puget Sound Traction, Light & Power Co.					
2	Sierra Pacific Electric Co.		2,000			
3	Utah Power & Light Co.			29,625	23,150	
4	Pacific Power & Light Co.					
5	Arizona Power Co.	9,000				
6	Pacific Gas & Electric Co. (Phoenix)	4,500				
7	Colorado Power Co.			42,250		
8	Standard Gas & Electric Co.		6,000	2,400		3,300
9	Summit County Power Co.			2,040		
10	Sierra & San Francisco Power Co.		49,500			
11	Northern California Power Co.		50,060			
12	California-Oregon Power Co.		4,120			
13	Pacific Gas & Electric Co.		122,890			
14	Western Power Co.		55,100			
15	Pacific Light & Power Co.		137,280			
16	Mt. Whitney Power & Electric Co.		9,850			
17	Southern California Edison Co.		37,780			
18	Nevada-California Power Co.		33,700			
19	Colorado Springs Light, Heat & Power Co.			8,000		
20	Idaho Railway Light & Power Co.				19,375	
21	American Waterworks & Electric Co.				16,440	
22	Washington Water Power Co.				15,000	
23	Montana Power Co.					189,500
24	Portland Railway Light & Power Co.					
25	Utah Light & Railway Co.					
26	Great Northern Railway Co.					
27	Northwestern Electric Co.					
28	Beaver River Power Co.				7,500	
	Municipal and Government plants		3,000		18,200	
	Industrial plants			10,731		
	Miscellaneous small plants		20,394	4,572	7,603	1,684
	Total	13,500	531,674	99,618	107,268	194,484

No.	Company.	Nevada.	Oregon.	Utah.	Washington.	Total.
1	Puget Sound Traction, Light & Power Co.				100,200	100,200
2	Sierra Pacific Electric Co.	9,590				11,590
3	Utah Power & Light Co.			60,076		112,851
4	Pacific Power & Light Co.		7,630		15,940	23,570
5	Arizona Power Co.					9,000
6	Pacific Gas & Electric Co. (Phoenix)					4,500
7	Colorado Power Co.					42,250
8	Standard Gas & Electric Co.					11,700
9	Summit County Power Co.					2,040
10	Sierra & San Francisco Power Co.					49,500
11	Northern California Power Co.					50,060
12	California-Oregon Power Co.		11,605			15,725
13	Pacific Gas & Electric Co.					122,890
14	Western Power Co.					55,100
15	Pacific Light & Power Co.					137,280
16	Mt. Whitney Power & Electric Co.					9,850
17	Southern California Edison Co.					37,780
18	Nevada-California Power Co.					33,700
19	Colorado Springs Light, Heat & Power Co.					8,000
20	Idaho Railway Light & Power Co.					19,375
21	American Waterworks & Electric Co.					16,440
22	Washington Water Power Co.				141,800	156,800
23	Montana Power Co.					189,500
24	Portland Railway Light & Power Co.		62,123			62,123
25	Utah Light & Railway Co.			13,400		13,400
26	Great Northern Railway Co.				30,250	30,250
27	Northwestern Electric Co.				20,000	20,000
28	Beaver River Power Co.			1,710		9,210
	Municipal and Government plants		140	5,800	58,260	85,400
	Industrial plants			1,030	6,530	18,291
	Miscellaneous small plants	500	8,260	2,335	21,260	66,608
	Total	10,090	89,758	84,351	394,240	1,524,983

Eastern banking affiliations.—No attempt has been made to work out in detail the banking connections and affiliations of power companies. It has been noted, however, that the Commercial, Girard, and Fidelity trust companies of Philadelphia, the Bankers, Guaranty, Columbia-Knickerbocker, Equitable, New York and United States trust companies of New York, and the Old Colony, American, State Street, Bay State, and Commonwealth trust companies of Boston, have on their directorates men prominent in the operating and holding companies of the power field and also act as transfer agents or registrars of electric power companies. Such affiliations are most noteworthy in the case of the Old Colony Trust Co. of Boston and the Guaranty Trust Co. of New York, both of which show strong community of interest with General Electric interests.

The Old Colony Trust Co. is transfer agent or registrar for seven of the holding companies discussed in connection with this statement and the Guaranty Trust Co. serves in like capacity for the same number.

It is interesting to note that William H. Crocker and Henry E. Huntington, both wealthy Californians heavily interested in land, power, and railroad interests of that State, are associated together on the directorate of the Equitable Trust Co. of New York.

The following table shows the directors of the Old Colony Trust Co. and Guaranty Trust Co., who are also directors of the General Electric Co. or its subsidiaries, of western operating companies dominated by General Electric influence, or of holding companies that are not direct subsidiaries of the General Electric Co. The fact that 14 directors of the Old Colony Trust Co. are also directors of the General Electric Co. and companies dominated by it is interesting and significant. Two members of the firm of Stone & Webster are also directors of Old Colony Trust Co., and others of the firm are associated with Old Colony Trust Co. and General Electric Co. interests in other Boston banks, as well as in numerous developed power projects.

Affiliations in the power business of directors of Old Colony Trust Co. and Guaranty Trust Co.

	Guaranty Trust Co. of New York.	Old Colony Trust Co. of Boston.	General Electric Co. and subsidiaries.	Holding companies not direct subsidiaries of General Electric Co.	Western operating companies dominated by General Electric Co. influence.
Abbott, Gordon		*	*	*	
Adams, C. F., 2d		*		*	
Ames, F. L.		*			*
Ames, Oliver		*	*	*	
Allen, C. H.	*			*	
Appel, D. F.		*		*	
Ayer, C. F.		*		*	*
Bartlett, John S.		*		*	
Carr, Samuel		*		*	
Gardner, Geo. P.		*	*		
Hart, F. R.		*		*	
Hemphill, A. J.	*		*	*	
Herrick, R. F.		*		*	
Lane, Wm. C.	*		*		
Paine, R. T., 2d		*	*	*	
Sabin, C. H.	*			*	*
Stockton, Philip		*	*		
Stone, C. A.		*		*	*
Wadsworth, Eliot		*		*	*
Ryan, John D.	*				*
Lane, Gardiner M.		*			*

SAN FRANCISCO AND LOS ANGELES BANKING AFFILIATIONS OF POWER COMPANIES OPERATING IN CALIFORNIA.

The following table shows the directors of power and lighting companies operating in California and the banks of which they are officers or directors.

The subsequent list shows the names of the power and lighting companies and eastern banking houses of which each director listed in the table is a director.

The table and list are of interest in showing that each of several power companies exercises an apparently controlling interest in one or more of the banks. The following associations of power company directors are of interest:

1. On the Anglo and London-Paris National Bank, of San Francisco, and the Anglo-California Trust Co., on the directorates of both of which Western Power Co. interests are strongly represented, there are found associated together directors of the Western Power Co., Northwestern Electric Co., Western States Gas & Electric Co., Sierra & San Francisco Power Co., and Southern California Edison Co.

2. On the directorate of the Mercantile National Bank, of San Francisco, and the Mercantile Trust Co., of San Francisco, there are associated together directors of the following interests: Pacific Gas & Electric Co., California-Oregon Power Co., Portland Railway, Light & Power Co., together with New York banks and eastern power companies.

3. Directors of the Pacific Gas & Electric Co. and the Pacific Lighting Corporation are also directors of the Savings Union Bank & Trust Co.

4. Directors of the Western States Gas & Electric Co. and the Northern California Power Co., Consolidated, are also directors of the Seaboard National Bank.

5. Directors of the Pacific Lighting Corporation, the Pacific Electric Railway Co., and the California-Oregon Power Co. are also directors of the Union Trust Co., of San Francisco, the directors of the Pacific Electric Railway and California-Oregon Power Co. also being directors of the Wells Fargo Nevada National Bank, of San Francisco.

6. Directors of the Pacific Lighting Corporation and the Pacific Light & Power Corporation are associated together on the Citizens' National Bank, of Los Angeles.

Power and lighting and eastern banking affiliations of directors of San Francisco and Los Angeles banks.

John A. Britton:
- California Gas & Electric Corporation (Pacific Gas & Electric Co.).
- Pacific Gas & Electric Co.
- San Francisco Gas & Electric Co. (Pacific Gas & Electric Co.).

Herbert Fleishhacker:
- American River Electric Co. (Western States Gas & Electric Co.).
- Central California Traction Co.
- Great Western Power Co. (Western Power Co.).
- Northwestern Electric Co.

Mortimer Fleishhacker:
- California Electric Generating Co. (Western Power Co.).
- Central California Traction Co.
- City Electric Co. (Western Power Co.).
- Great Western Power Co. (Western Power Co.).
- Northwestern Electric Co.

Washington Dodge:
- California Electric Generating Co. (Western Power Co.).
- Great Western Power Co. (Western Power Co.).

Jesse W. Lilienthal:
- Sierra & San Francisco Power Co. (United Railways Investment Co.).

J. J. Mack:
- City Electric Co. (Western Power Co.).

George I. Cochran, Los Angeles:
- Southern California Edison Co.
- Union Trust Co. (Los Angeles).

Mark L. Gerstle:
- City Electric Co. (Western Power Co.).

Charles F. Leege:
Central California Gas. Co.
E. R. Lilienthal:
Northern Electric Railway Co.
West Sacramento Electric Co.
Frank B. Anderson:
California Gas & Electric Corporation (Pacific Gas & Electric Co.).
Pacific Gas & Electric Co.
San Francisco Gas & Electric Co. (Pacific Gas & Electric Co.).
William H. Crocker:
Equitable Trust Co., New York.
Pacific Gas & Electric Co.
F. G. Drum:
California Gas & Electric Corporation (Pacific Gas & Electric Co.).
Pacific Gas & Electric Co.
San Francisco Gas & Electric Co. (Pacific Gas & Electric Co.).
George W. Scott:
Snow Mountain Water & Power Co.
J. A. Donohue:
California-Oregon Power Co.
Joseph D. Grant:
California-Oregon Power Co.
Coast Counties Gas & Electric Co. (Pacific Gas & Electric Co.).
W. F. Detert:
Economic Gas Co. (Los Angeles).
John D. McKee:
California-Oregon Power Co.
Ogden Mills, 15 Broad Street, New York:
Bank of New York.
Farmers' Loan & Trust Co., New York.
German Savings Bank, New York.
Metropolitan Trust Co.
Niagara Falls Power Co.
Portland Railway, Light & Power Co.
Southern Pacific Co.
United States Trust Co., New York.
Charles Holbrook:
Pacific Lighting Corporation.
John S. Drum:
California Gas & Electric Corporation (Pacific Gas & Electric Co.).
Pacific Gas & Electric Co.
San Francisco Gas & Electric Co. (Pacific Gas & Electric Co.).
C. O. G. Miller:
Los Angeles Gas & Electric Corporation (Pacific Lighting Corporation).
Pacific Gas & Electric Co.
Pacific Lighting Corporation.
A. S. Carman:
Northern California Power Co., Consolidated.
Allen L. Chickering:
American River Electric Co. (Western States Gas & Electric Co.).
Western States Gas & Electric Co.
William F. Herrin:
Fresno Traction Co.
Los Angeles Interurban Railway.
Pacific Electric Railway Co.
Southern Pacific Railroad Co.
Stockton Electric Railroad.
Visalia Electric Railroad.
J. Henry Meyer:
California-Oregon Power Co.
F. W. Van Sicklen:
Pacific Lighting Corporation.
Albert Crutcher:
City Railway Co. of Los Angeles.
Los Angeles Railway Corporation.
Pacific Light & Power Corporation.

W. G. Kerchoff:
Coalinga Water & Electric Co. (San Joaquin Light & Power Corporation).
Midway Gas. Co.
San Joaquin Light & Power Corporation.
Southern California Gas Co.
Ben R. Meyer:
Coalinga Water & Electric Co. (San Joaquin Light & Power Corporation).
Midland Counties Gas & Electric Co.
J. C. Drake:
Southern California Edison Co.
John B. Miller:
Santa Barbara Gas & Electric Co. (Southern California Edison Co.).
Southern California Edison Co.
William R. Staats:
Southern California Edison Co.

San Francisco and Los Angeles banking affiliations of directors of power and lighting companies.

	American National Bank.	The Anglo & London Paris National Bank of San Francisco.	Anglo-California Trust Co.	The Bank of California National Association.	The Crocker National Bank of San Francisco.	The Donohue-Kelly Banking Co.	Mercantile National Bank of San Francisco.	Mercantile Trust Co. of San Francisco.	The Mission Bank.	Mutual Savings Bank.	Savings Union Bank & Trust Co.	The Seaboard National Bank.	Security Savings Bank.	Union Trust Co. of San Francisco.	Wells Fargo Nevada National Bank of San Francisco.	Citizens National Bank.	The Farmers & Merchants National Bank of Los Angeles.	The First National Bank of Los Angeles.	The Los Angeles Trust & Savings Bank.
Britton, John A	*																		
Fleishhacker, Herbert		*	*																
Fleishhacker, Mortimer		*	*																
Dodge, Washington		*																	
Lilienthal, Jesse W		*	*																
Mack, J. J		*	*																
Cochran, Geo. I			*																*
Gerstle, Mark L			*																
Leege, Chas. F			*																
Lilienthal, E. R			*																
Anderson, Frank B				*					*		*								
Crocker, Wm. H					*						*								
Drum, F. G					*		*	*											
Scott, Geo. W					*										*				
Donohue, J. A						*							*						
Grant, Joseph D						*	*	*					*						
Detert, W. F							*	*											
McKee, John D							*	*											
Mills, Ogden							*	*							*				
Holbrook, Charles										*				*					
Drum, John S											*								
Miller, C. O. G											*								
Carman, A. S												*							
Chickering, Allen L												*							
Herrin, Wm. F														*	*				
Meyer, J. Henry														*	*				
Van Sicklen, F. W																*			
Crutcher, Albert																*			
Kerckoff, W. G																	*		
Meyer, Ben R																	*		
Drake, J. C																		*	*
Miller, John B																		*	
Staats, Wm. R																			*

CONTROL OF DEVELOPED WATER POWER.

On the basis of the facts which have been presented, it becomes apparent that in the Western States the General Electric Co. through its subsidiaries dominates the water-power situation.

Of the 28 operating companies discussed, the Utah Power & Light Co. and the Pacific Power & Light Co. are direct subsidiaries. The Colorado Power Co., the Arizona Power Co., and the Pacific Gas & Electric Co. are so closely allied that they may be regarded as essentially subsidiary companies, although the precise relationship has not been made public.

Somewhat less closely connected but still dominated by the General Electric Co. are the following: Sierra & San Francisco Power Co.; Western Power Co.; Colorado Springs Light, Heat & Power Co.; Idaho Railway, Light & Power Co.; American Waterworks & Electric Co.; Montana Power Co.; and Portland Railway, Light & Power Co.

Through interlocking directorates, both of holding and operating companies, the General Electric Co. is allied with the Puget Sound Traction, Light & Power Co.; Sierra Pacific Electric Co.; the Pacific Gas & Electric Co.; the Standard Gas & Electric Co.; and Summit County Power Co.

Any affiliation with the Huntington interests in California, comprising the Pacific Power & Light Co., the Los Angeles Gas & Electric Co., and probably the Southern California Edison Co., seems to be through Mr. Huntington's New York banking interests. In a similar way any connection between the General Electric Co. and the Washington Water Power Co. is apparently through banks with which its New York directors are connected. The other companies discussed, the Northern California Power Co., the California-Oregon Power Co., the Mount Whitney Power & Electric Co., the Nevada-California Power Co., the Northwestern Electric Co., and the Beaver River Power Co., are apparently independent of the large financial interests allied to the General Electric Co. These relationships may be summarized as follows:

Classification of western water-power holdings.

Subsidiaries of General Electric Co.:		
(3) Utah Power & Light Co	112,851	
(4) Pacific Power & Light Co	23,570	
		136,421
Companies in a subsidiary relation to the General Electric Co.:		
(5) Arizona Power Co	9,000	
(6) Pacific Gas & Electric Co. of Phoenix	4,500	
(7) Colorado Power Co	42,250	
		55,750
Companies in which there is a preponderant General Electric influence:		
(10) Sierra & San Francisco Power Co	49,500	
(14) Western Power Co	55,100	
(19) Colorado Springs Light, Heat & Power Co	8,000	
(20) Idaho Railway, Light & Power Co	19,375	
(21) American Waterworks & Electric Co	16,440	
(23) Montana Power Co	189,500	
(24) Portland Railway, Light & Power Co	62,123	
		400,038
Companies associated with the General Electric Co. through interlocking directors:		
(1) Stone & Webster interests—		
(1) Puget Sound Traction, Light & Power Co	100,200	
(2) Sierra Pacific Electric Co	11,590	
(8) Byllesby interests—		
(8) Standard Gas & Electric Co	11,700	
(9) Doherty interests: Summit County Power Co	2,040	
(13) Pacific Gas & Electric Co	122,890	
		248,420

Companies apparently associated with General Electric Co. only through banking affiliations:			
Huntington interests—			
(15) Pacific Light & Power Co	137,280		
(17) Southern California Edison Co	37,780		
		175,060	
(22) Washington Water Power Co		156,800	
(25) Utah Light & Railway Co		13,400	
(26) Great Northern Railway Co		30,250	
			375,510
Other companies described:			
(11) Northern California Power Co		50,060	
(12) California-Oregon Power Co		15,725	
(16) Mount Whitney Power & Electric Co		9,850	
(18) Nevada-California Power Co		33,700	
(27) Northwestern Electric Co		20,000	
(28) Beaver River Power Co		9,210	
			138,545
Municipal and Government plants			85,400
Industrial plants			18,291
Miscellaneous small plants			66,608
Total developed water power			1,524,983

The relationships heretofore brought out make it reasonable to assume that the operating companies of the first three classes are General Electric companies, and that the companies of the fourth class are so closely associated with General Electric that there is no conflict in interests. The developed water power controlled by these companies and their subsidiaries totals 840,629 horsepower, which comprises about 60 per cent of the power developed by private corporations.

It is, however, also of great importance to note that the companies of the fourth and fifth classes occupy territory adjacent to or together with General Electric companies without any difficulties because of distribution of territory or power output. In fact, of the 28 companies listed, there are only two cases of piracy, the Northwestern Electric, in Portland, and the Beaver River, in Boise.

These harmonious relations are to an important extent due to affiliation of interests which are expressed in units of greater magnitude than have been analyzed in this statement. It appears entirely probable that relations similar to those indicated as existing between the operating and holding companies discussed would be found to be prevalent if the relations of the General Electric Co., the American Telephone & Telegraph Co., the United States Steel Corporation, the Standard Oil Co. of New Jersey, the Amalgamated Copper Co., and the large railroad companies to the great financial institutions were studied.

EXHIBIT O.

DATA FOR THE INFORMATION OF THE PUBLIC LANDS COMMITTEE OF THE HOUSE OF REPRESENTATIVES, IN REPLY TO TEN QUESTIONS ASKED BY JUDGE RAKER.

The information relates only to transmission-line grants subsequent to January 7, 1913, and to water-power permits subsequent to March 3, 1913, these dates being the dates of issuance of the first grant and permit, respectively, prepared by the Survey.

1. Question. How many preliminary permits and the horsepower of each were granted to individuals or corporations already operating?

Answer. None.

2. Question. How many final permits were granted to individuals or corporations theretofore in receipt of previous permits?

Answer. None to individuals or corporations previously receiving permits prepared by the Survey. So far as known one final permit and one transmission.line grant issued to corporations previously receiving permits prepared by the Forest Service. One permit issued jointly by the Secretary of Agriculture and the Secretary of the Interior.

3. Question. How many preliminary permits within the past six years have been granted and upon which final permits have not been; also under which there is now no operation or active construction?

Answer. Operation or active construction not permitted under preliminary permits. The period of but one preliminary permit has expired. Application for final permit was made in this case but the permit could not be issued because of nonapproval of the head of the department having jurisdiction over a reservation involved.

4. Question. How many in which there was no operation?

Answer. Eight preliminary permits were issued to individuals or corporations for plants not already operating. The net capacities in horsepower were, respectively, 5,000, 1,100, 13,260, 1,750, 1,810, 1,050, 4,800, 984, 8,620; aggregate, 38,374.

5. Question. How many on which there is still construction?

Answer. Construction not authorized under preliminary permits.

6. Question. How many permits and the horsepower of each have been granted which are final permits?

Answer. Five. Two of these were for transmission lines. Total capacities of the remaining three were, respectively, 21,300, 112,000, 50,000; aggregate, 183,300.

7. Question. State the horsepower of the final permits that have been granted within the past two years to corporations which have not heretofore received preliminary or final power permits other than those you now mention.

Answer. No others shown by Survey records.

8. Question. State the number and the horsepower of each of the preliminary permits and of the final permits which have been granted within the past two years to corporations which have been already in receipt of final permits.

Answer. No second permits have been issued to individuals or corporations since March 3, 1913, the date on which the survey record of such matters begins.

9. Question. State which of the permits, the number and horsepower thereof, which were granted under the act of 1901, and which of the permits and the horsepower thereof which have been granted under the act of 1911 for transmission lines.

Answer. The data given above relate to permits under the act of February 15, 1901. Under the act of March 4, 1911, three transmission-line grants have been made. The capacity and horsepower of the connected generating plants are, respectively, 21,000, 8,000, and 21,000. Two of these grants were made to the same company.

10. Question. State the number of projects and the horsepower of each for which final permits have been taken out by individuals, companies, or corporations under the act of 1901 within the past two years, and which individuals, companies, or corporations were not prior to the granting of these final or preliminary permits in the hydroelectric business as developers of power.

Answer. Within the period covered by this statement, 8 preliminary permits, 5 final permits, and 3 transmission-line grants have been issued. So far as known, 5 of the preliminary permittees, 3 of the final permittees, were not in the power business, but all of the transmission line grantees were developers of power.

Exhibit P.

State.	Census 1907.				Census 1912.				Increase.
	Commercial central stations.	Street and electric railway stations.	Municipal central stations.	Total.	Commercial central stations.	Street and electric railway stations.	Municipal central stations.	Total.	
Alabama	6,675	.....	332	7,007	9,005	.....	875	9,880	2,873
Arizona	750	.....	.....	750	9,300	.....	.....	9,300	8,550
Arkansas	300	.....	.....	300	3,040	.....	.....	3,040	2,740
California	208,244	200	200	208,644	430,312	265	1,750	432,327	223,683
Colorado	25,580	1,880	.....	27,460	76,205	5,200	800	82,205	54,745
Connecticut	17,955	1,938	90	19,983	19,058	900	376	20,334	351
Delaware	285	.....	.....	285	826	.....	.....	826	521
Florida	.....	1,400	.....	1,400	5,700	1,400	.....	7,100	5,700
Georgia	36,155	5,797	180	42,132	51,467	30,530	490	82,487	40,355
Idaho	11,292	.....	.....	11,292	50,750	.....	1,100	51,850	40,558
Illinois	10,478	1,153	.....	11,631	9,242	5,200	28,120	42,562	30,931
Indiana	19,075	.....	531	19,606	23,915	.....	.....	23,915	4,309
Iowa	3,478	.....	355	3,833	6,639	.....	390	7,029	3,196
Kansas	8,461	.....	200	8,661	8,820	.....	.....	8,820	159
Kentucky	.....	.....	.....	.....	.....	.....	.....	.....	.....
Louisiana	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maine	38,021	7,000	1,745	46,766	68,300	25,564	1,638	95,502	48,736
Maryland	1,347	.....	.....	1,347	3,083	.....	140	3,223	1,876
Massachusetts	15,596	1,628	1,185	18,409	23,283	1,709	1,197	26,189	7,780
Michigan	81,509	.....	4,229	85,738	115,852	9,375	9,227	134,454	48,716
Minnesota	70,160	10,280	1,496	81,936	78,960	22,000	1,212	102,172	20,236
Mississippi	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri	2,002	.....	.....	2,002	1,902	.....	.....	1,902	−100
Montana	56,987	.....	.....	56,987	102,865	770	.....	103,635	46,648
Nebraska	2,954	.....	.....	2,954	5,728	.....	156	5,884	2,930
Nevada	6,260	.....	.....	6,260	12,540	.....	.....	12,540	6,280
New Hampshire	24,799	800	605	26,204	56,537	2,182	400	59,119	32,915
New Jersey	1,682	.....	112	1,794	1,457	.....	112	1,569	−225
New Mexico	513	.....	.....	513	817	.....	.....	817	304
New York	303,905	9,485	2,045	315,435	510,521	18,515	1,885	530,921	215,486
North Carolina	9,676	2,850	286	12,812	49,000	10,200	951	60,151	47,339
North Dakota	100	.....	.....	100	.....	.....	.....	.....	−100
Ohio	1,682	1,250	355	3,287	8,635	1,830	225	10,690	7,403
Oklahoma	.....	.....	.....	.....	1,835	.....	300	2,135	2,135
Oregon	101,877	.....	175	102,052	25,808	75,500	3,994	105,302	3,250
Pennsylvania	30,578	625	285	31,488	131,699	725	594	133,018	101,530
Rhode Island	2,263	.....	.....	2,263	2,440	.....	.....	2,440	177
South Carolina	75,430	8,040	.....	83,470	178,555	.....	.....	178,555	95,085
South Dakota	2,205	.....	.....	2,205	6,913	.....	.....	6,913	4,708
Tennessee	1,060	.....	180	1,240	27,450	.....	300	27,750	26,510
Texas	2,762	.....	.....	2,762	3,383	.....	120	3,503	741
Utah	32,161	9,600	2,510	44,271	55,812	15,100	3,776	74,688	30,417
Vermont	24,484	2,750	3,988	31,222	30,406	4,655	4,866	39,927	8,705
Virginia	7,098	16,925	2,453	26,476	38,474	22,119	5,806	66,399	39,923
Washington	51,078	4,900	5,040	61,018	20,356	192,050	57,235	269,641	208,623
West Virginia	3,627	.....	.....	3,627	6,036	.....	.....	6,036	2,409
Wisconsin	17,431	3,460	1,570	22,461	66,576	25,518	2,190	94,284	71,823
Wyoming	765	.....	.....	765	1,298	.....	36	1,334	569
United States	1,318,740	91,961	30,147	1,440,848	2,340,820	471,307	130,261	2,942,368	1,501,520

EXHIBIT Q.—ORDER OF REVOCATION OF MARCH 2, 1909.

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, D. C., March 2, 1909.

The FORESTER,
Forest Service, Washington, D. C.

SIR: On ———, the Secretary of the Interior made the following indorsement on a "Map showing power-house site and location of buildings of ——— ———," executed on ———, by ———, and filed in the United States Land Office at ———, ———, on ———, by ———, applicant:

DEPARTMENT OF THE INTERIOR,
April 10, 1905.

The use of the right of way shown on this map is hereby permitted in accordance with the provisions of the act of February 15, 1901 (31 Stat., 790), and the regulations, present or future, thereunder to the extent only of the grounds occupied by the structures and fifty feet on each side of the marginal limits thereof, on condition that the applicant constructs and maintains suitable bridges or crossings wherever the right of way at all interferes with the use of existing trails and roads, or those which may hereafter be built by or under the direction of the forest officers.

E. A. HITCHCOCK, *Secretary.*

All of said right of way is within the ——— National Forest.

The act of February 15, 1901, does not affect the surveying of or passage of title to lands. The act provides:

"That any permission given by the Secretary of the Interior under the provisions of this act may be revoked by him or his successor in his discretion, and shall not be held to confer any right, or easement, or interest in, to, or over any public land, reservation, or park."

The act of February 1, 1905 (33 Stat., 628), provides (sec. 1):

"The Secretary of the Department of Agriculture shall, from and after the passage of this act, execute or cause to be executed all laws affecting public lands heretofore or hereafter reserved under the provisions of section twenty-four of the act entitled 'An act to repeal the timber-culture laws, and for other purposes,' approved March third, eighteen hundred and ninety-one, and acts supplemental to and amendatory thereof, after such lands have been so reserved, excepting such laws as affect the surveying, prospecting, locating, appropriating, entering, reliquishing, reconveying, certifying, or patenting of any such lands."

Therefore the Secretary of Agriculture has sole jurisdiction to administer the act of February 15, 1901, in national forests and may, in his discretion, revoke any permits issued under that act.

The said permit issued by the Secretary of the Interior authorized the use of said right of way for storing, conducting, and using water for the generation of electric energy.

The said permit issued by the Secretary of the Interior does not require the permittee to make any payments to the United States in consideration for such use of the right of way, and contains no mention of any charge. It is the policy and uniform practice of the Department of Agriculture in issuing permits for the use of National Forest lands for storing, conducting, and using water for the generation of electric energy for sale, to require the permittees to pay to the United States reasonable construction and operation charges in consideration for such use. It is the policy and practice of the Department of Agriculture also to place all like users of National Forest lands on a uniform basis in respect to the conditions and requirements under which they shall enjoy such uses.

Under the said established policy and practice it is advisable that the said permit issued by the Secretary of the Interior be revoked and that ——— be required to secure a new permit, in the form of a special-use agreement, from the Department of Agriculture. Accordingly, in the exercise of my discretion and the authority in me vested by the Act of February 15, 1901, and the Act of February 1, 1905, I hereby revoke the said permit issued by the Secretary of the Interior on ———, said revocation to take effect upon the issuance of a new permit under the regulations of this department, or on July 1, 1909, if such permit has not been issued before that day.

You are hereby instructed to communicate with ——— with a view to the validation of his occupancy and use of the National Forest lands hitherto occupied and used under the permit hereby revoked. Pending the settlement of the terms of a permit for this purpose and a reasonable time thereafter for the execution of the same, the

occupancy and use of the lands for the purposes covered by the revoked permit should not be disturbed or interfered with.

In settling the terms of the new permit for such occupancy and use, due weight should be given for investments made on the faith of the revoked permit. In case there has been full investment and development the operation charge imposed by the new permit for the first twenty-five years should be nominal. You should, therefore, in such case, calculate the gross operation charge at a rate not to exceed two (2) cents per thousand KWH during this period and make the usual reductions for alienated and unreserved lands and for water storage. From the twenty-sixth year the gross operation charge should be calculated at the maximum rates prescribed for the first to the twenty-fifth years in the standard form of permit for new projects.

You are hereby further instructed to serve notice of this decision and these instructions upon ———, and to secure return, hereon, of such service.

Very respectfully,

JAMES WILSON,
Secretary of Agriculture.

DEPARTMENT OF THE INTERIOR,
March 2, 1909.

I approve and concur in the above revocation.

JAMES RUDOLPH GARFIELD,
Secretary of the Interior.

Service of the above decision is hereby admitted this — day of ———, 1909.

FORM OF PERMIT TO TAKE PLACE OF THOSE REVOKED ON MARCH 2, 1902.

United States Department of Agriculture,

Forest Service.

.....; uses.
(Name of forest.)

.....; power.
(Name of applicant.)

.....; .....
(Use applied for.) (Date of application.)

POWER AGREEMENT.

Clause 1. The ——— Company, hereinafter called the permittee, a corporation organized and existing under the laws of the State, or Territory, of ———, and having its office and principal place of business at ———, in said State, or Territory, hereby applies for permission to occupy and use certain lands of the United States and rights of way reserved by the United States within the ——— National Forest, by constructing, maintaining, and operating thereon, for the purpose in this clause below set forth, the following works:

(Cancel such of the three following items, (a), (b), (c), as may not be applicable.)

(a) ——— dam approximately ——— feet in height, respectively, and ——— reservoir to flood approximately ——— acres, whereof approximately ——— acres are national forest land;

(b) ——— conduit approximately ——— miles in length, whereof approximately ——— miles will lie upon national forest land or land within national forests over which a right of way for ditches or canals, constructed by the authority of the United States is reserved by the act of August 30, 1890 (26 Stat., 391);

(c) ——— power house and appurtenant structures to occupy approximately ——— acres, whereof approximately ——— acres are national forest land; all approximately as shown on ——— certain tracing , executed by ——— ——— on ———, 19 , respectively, filed in ——— on ———, 19 , respectively, and marked by the designation hereto prefixed, which tracing —— hereby made a part of this instrument.

The works for which a permit is hereby applied for are to be constructed, maintained, and operated for the purpose of storing, conducting, and for using water for the generation of electric energy.

The permittee does hereby, in consideration for the permit hereby applied for, promise and agree for itself and its successors to comply with all regulations and

instructions of the Department of Agriculture governing national forests, and especially with the following conditions:

Clause 2. The permittee shall pay to the ——— National Bank of ——— (United States depositary) or such other Government depositary or officer as shall hereafter be duly designated by the United States, to be placed to the credit of the United States, a construction charge of ——— dollars ($———), annually in advance from ——— until the beginning of the use, for the purpose aforesaid, of the work or works for which permit is hereby applied for, being at the approximate rate of one dollar per acre and five dollars per mile for the land occupied by said works, at which time the permittee shall be entitled to a credit toward the operation charge hereinafter provided for, of part of such annual construction charge, so last paid, proportionate to the remaining part of the year for which such last payment was made; and annually thereafter a net operation charge fixed by the Forester and calculated as follows: The gross operation charge for any year shall be calculated by the Forester upon the basis of the quantity of electric energy generated in such year at a maximum rate which shall not exceed the following amounts per thousand kilowatt hours (KWH):

	Cents.
For the first year[1]	2
For the second year	4
For the third year	6
For the fourth year	8
For the fifth year	10
For the sixth to the tenth years, inclusive	12½
For the eleventh to fifteenth years, inclusive	15
For the sixteeth to twentieth years, inclusive	17½
For the twenty-first to twenty-fifth years, inclusive	20
For the twenty-sixth to thirtieth years, inclusive	22½
For the thirty-first to thirty-fifth years, inclusive	25
For the thirty-sixth to fortieth years, inclusive	27½
For the forty-first to forty-fifth years, inclusive	30
For the forty-sixth to fiftieth years, inclusive	32½

Clause 3. From the gross operation charge for any year, calculated as aforesaid deductions shall be made as follows:

(a) A sum bearing approximately the same ratio to one-half such gross operation charge as the area of unreserved lands and patented lands on the watershed furnishing the water stored, conducted, and used in the works for which permit is hereby applied for bears to the total area of the watershed, as of the beginning of each year;

(b) A sum bearing approximately the same ratio to one-half such gross operation charge as the length of the conduit, for which permit is hereby applied for, upon unreserved lands and upon patented lands, over which a right of way for ditches and canals is not reserved by the act of August 30, 1890 (26 Stat., 391), bears to the total length of such conduit, as of the beginning of each year;

(c) A sum bearing approximately the same ratio to the balance remaining after said deductions "a" and "b" as the quantity of electric energy generated from water stored artificially by the permittee, over and above what is generated by the natural flow, bears to all electric energy generated.

The sum remaining after all the aforesaid deductions have been made shall be the net operation charge for such year.

Provided, That the term "unreserved lands," as above used in this clause, shall be deemed and taken to mean lands of the United States not reserved as a part of any national forest, and that this permit shall not affect such lands or restrict in any man-

[1] In place of the above schedule the following special rate was made to companies which here made investment under the revoked permits:

	Cents.
For the first to twenty-sixth years, inclusive	2
For the twenty-seventh year	4
For the twenty-eighth year	6
For the twenty-ninth year	8
For the thirtieth year year	10
For the thirty-first to thirty-fifth years, inclusive	12½
For the thirty-sixth to furtieth years, inclusive	15
For the forty-first to forty-fifth years, inclusive	17½
For the forty-sixth to fiftieth years, inclusive	20

Said special maximum rate, in consideration of the fact that the permittee has made full investment upon and development of said works, and has issued securities thereon, upon the faith of a permit issued by the Secretary of the Interior on the ..... day of ....., 19.., is reduced from the general scale of maximum rates by postponing, in effect, the general scale of maximum rates until the twenty-sixth year and calculating for the first twenty-five years at the flat rate of two (2) cents per thousand kilowatt hours.

ner the right and duty of the United States to control the occupancy and use thereof through the department or officer lawfully charged with their custody or control.

Provided further, That the term "patented lands," as above used in this clause, shall include all lands to which title has been perfected in persons, corporations, States, and Territories; also all lands outside the United States.

Provided further, That the word "conduit," as used in this and other clauses of this permit, shall include ditches, canals, pipe lines, and all other means for the conveyance of a flow of water.

Clause 4. The decision of the Forester shall be final as to all matters of fact upon which the gross operation charge for any year, the deductions for such year, and the net operation charge for such year depend.

Clause 5. The permittee shall install and maintain in good operating condition, free of any expense to the United States, accurate meters and other instruments approved by the Forester, adequate for the measurement of the electric energy on which said gross operation charge is to be calculated, and accurate measuring weirs and other devices approved by the Forester, adequate for the determination of the quantity of water used in the generation of electric energy from the natural streamflow and, separately, the quantity of water stored by the permittee so used over and above the natural streamflow, and the permittee shall keep accurate and sufficient records to the satisfaction of the Forester and free of any expense to the United States, showing the quantity of electric energy generated in each year, the quantity of water used in such generation of electric energy from the natural streamflow and, separately, the quantity of water stored by the permittee so used over and above the natural streamflow, and the authorized agents of the Forest Service shall at all times have free access to the aforesaid meters, weirs, instruments, devices, and records of the permittee. In case the permittee fails for any year to so install and maintain such meters, weirs, instruments, and devices and to keep such records, the Forester shall fix by estimate the amount of the gross charge and of the deductions for such year, using such information as he can readily obtain.

Clause 6. If the United States shall hereafter, for permits of this nature in national forests, reduce the general scale of maximum rates below those above provided for in clause 2 hereof, or shall wholly abolish charges for permits of this nature, then and thereupon the charges to be calculated and fixed hereunder, as provided in clause 2 hereof, shall be reduced or abolished in like degree.

Clause 7. The permittee shall pay to the United States depositary or officer, as above set forth in clause 2 hereof, the full value of all merchantable live or dead timber cut, injured, or destroyed in the construction of the said works, title to which, at the time of such cutting, injury, or destruction, is in the United States, according to the scale, count, or estimate of the forest officer in charge or other duly authorized officer or agent of the Uniited States, such full value of timber cut, injured, or destroyed in the construction of said works shall be deemed and taken to be, and payment therefor shall be made in advance as required by such forest officer or other duly authorized officer or agent of the United States.

Clause 8. The permittee shall dispose of all brush and other refuse resulting from the necessary clearing of or cutting of timber on the lands occupied under the permit hereby applied for as may be required by the forest officer in charge.

Clause 9. The permittee, its employees, contractors, and employees of contractors, shall do all in their power, both independently and upon the request of the forest officers, to prevent and suppress forest fires.

Clause 10. The permittee shall, on demand of the district forester or other duly authorized officer or agent of the United States, pay to the United States depositary or officer, as above set forth in clause 2 hereof, full value as fixed by such district forester or other duly authorized officer, for all damage to the national forests resulting from the breaking of or the overflowing, leaking, or seepage of water from the works constructed, maintained, or operated under the permit hereby applied for, and for all damage to the national forests caused by the neglect of the permittee, its employees, contractors, or employees of contractors.

Clause 11. The permittee shall build new roads and trails as required by the forest officer or other duly authorized officer or agent of the United States to replace any roads or trails destroyed by the construction work or flooding under the permit hereby applied for, and to build and maintain suitable crossings as required by the forest officer, or other duly authorized officer of agent of the United States, for all roads and trails which intersect the conduit, if any, constructed, operated, or maintained under the permit hereby applied for.

Clause 12. The permittee shall within ——— months from the date of approval hereof, begin bona fide construction of the works for which permit is hereby applied for, and shall, within ——— years from the date of said approval, complete such con-

struction and begin to operate said works for the purpose in clause 1 hereof set forth, unless the time is extended by written consent of the forester; it being understood that such consent will usually be given only because of physical obstacles to construction, such as floods or engineering difficulties which could not reasonably have been anticipated.

Clause 13. In constructing any dam or reservoir under the permit hereby applied for, the permittee shall follow the usual precautons in the ordinary methods of dam construction. This obligation, however, shall not be construed so as to relieve the permittee from any requirement of State law regarding the construction of dams and storage of water.

Clause 14. The permittee shall sell electric energy to the United States when requested at as low a rate as is given to any other purchaser for a like use at the same time: *Provided*, That the permittee can furnish the same to the United States without diminishing the measured quantity of energy sold before such request to any other consumer by a binding contract of sale: *Provided further*, That nothing in this clause shall be construed to require the permittee to increase its permanent works or to install additional generating machinery.

Clause 15. The permit hereby applied for shall be nontransferrable (U. S. Rev. Stats., sec. 3737), and shall be subject to all prior valid claims which are not by law subject thereto.

Clause 16. No member of or delegate to Congress shall be admitted to any share or part of this agreement or to any benefit to arise thereupon. (U. S. Rev. Stats., secs. 3739 to 3742, inclusive.)

Clause 17. No person undergoing a sentence of imprisonment at hard labor imposed by any court of the several States, Territories, or municipalities having criminal jurisdiction, shall be employed in the performance of this contract. (Executive order, May 18, 1905.)

Clause 18. The permittee shall, except when prevented by the act of God or the public enemy or by unavoidable accidents or contingencies, continuously operate for the generation of electric energy the works to be constructed under the permit hereby applied for, in such manner as to generate after such generation begins, not less than the following percentages of the full hydraulic capacity of the said works measured in kilowatt hours: In the first year ——— per cent, in the second year ——— per cent, in the third year ——— per cent, in the fourth year ——— per cent, in the fifth year ——— per cent, and in every year thereafter ——— per cent.

Clause 19. If any of the works for which permit is hereby applied for shall be owned, leased, trusteed, possessed, or controlled by any device permanently, temporarily, directly, indirectly, tacitly, or in any manner whatsoever so that they form part of, or in any way effect, any combination, or are in anywise controlled by any combination, in the form of an unlawful trust, or form the subject of any contract or conspiracy to limit the output of electric energy or in restraint of trade with foreign nations or between two or more States or Territories or within any one State or Territory, in the generation, sale, or distribution of electric energy, the permit hereby applied for shall be forfeited to the United States by proceedings instituted by the Attorney General of the United States in the courts for that purpose.

Clause 20. The permit hereby applied for shall cease and be void upon the expiration of fifty years from the date of approval hereof, but it may then be renewed in the discretion of the duly authorized officer or agent of the United States and upon such conditions as he may in his discretion fix: *Provided*, That such officer or agent, in fixing such conditions, shall consider the actual value at that time for power and all other purposes of the lands and rights of way within national forests occupied and used under the permit hereby applied for and the actual value at that time of all improvements lawfully made by the permittee within national forests under the permit hereby applied for, but neither the property of the permittee, if any, outside of national forests, nor the permit, franchises, bonds, capital stock, or other securities of the permittee shall be considered in fixing such conditions.

Clause 21. Nothing herein contained shall be construed to prevent the Forest Service from having the same jurisdiction over the lands above specified, including the issuance of further permits, as over other national forest lands, not inconsistent with the occupation and use hereby applied for.

In witness whereof, the permittee has executed this application in duplicate at ——— on this ——— day of ———, 19 .

[SEAL.]

Attest: By ——— ———, *President*.

——— ———, *Secretary*.

ACKNOWLEDGMENT.

STATE OF ——, *County of* ——, *ss:*

On this —— day of ——, 19 , before me, a notary public in and for said county, duly commissioned and sworn, my commission expiring ——, 19 , personally came —— to me personally known, who being by me duly sworn, did depose and say that he resides in ——; that he is the —— of the —— Company; that said company is the corporation which is described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so fixed by order of the board of directors of said corporation; and that he signed his name thereto by like order; and the said —— acknowledged said instrument to be the free act and deed of said corporation.

Witness my hand and official seal the day and year first above written.

[NOTARIAL SEAL.]

——,
Notary Public in and for —— *County.*

Approved ——, 19 , and permission granted subject to the conditions set forth.

——, *Forester.*

FORM OF TEMPORARY PERMIT TO TAKE EFFECT ON JULY 1, 1909.

United States Department of Agriculture Forest Service.

TEMPORARY SPECIAL-USE PERMIT.

Whereas, on ——, the Secretary of the Interior issued to ——, hereinafter called the permittee, a permit to use, for storing, conducting, and using water for the generation of electric energy, a right of way shown on a certain map designated "map of a water conduit and power-house site," and located partly within the —— National Forest; and

Whereas said permit was revoked by the decision of the Secretary of Agriculture dated March 2, 1909, as to the part of said right of way in the said national forest; and

Whereas such revocation will take effect on July 1, 1909;

Now, therefore, permission is hereby given to the permittee to use the part of said right of way in said national forest for said purpose in the same manner and to the same extent as authorized by the said permit issued by the Secretary of the Interior.

This permit shall take effect on July 1, 1909, and remain in effect until the issuance of a new permit in the form of a special-use agreement as contemplated by the said decision of the Secretary of Agriculture, unless earlier revoked by the forester.

This permit is revocable at the discretion of the forester.

——, *Acting Forester.*

List of permits revoked on Mar. 2, 1909.

[Acts of Feb. 15, 1901.]

Permittee.	Forest.	New permit given.	Investment at time of revocation.	Investment recognized by form of permit.	Remarks.
Zombro, Colliver	Angeles	No	None		Project abandoned prior to revocation.
Mentone Power Co.	do	Yes	Constructed.	Yes	Plant now in operation under permit with special low rates of charge.
Sperry, E. A. & W. L.	Arapaho	do	None		Abandoned.
Telluride Power Co.	Cache	do	Constructed.	Yes	Plant in operation; rights in litigation.
Clark, C. M.	Crook and Tonto.	do	None		Abandoned.
Industrial Investment Co.	Holy Cross	No	do		Project abandoned prior to revocation.
Grand River Power & Transportation Co.	do	do	do		Do.
Central Colo. Power Co. (De Remer pipe line).	do	Yes	Under construction.	Yes [1]	Plant in operation; rights in litigation.
Glenwood Light & Water Co.	do	do	Constructed.	Yes	Plant in operation under special low-rate permit.
Nevada-California Power Co.	Inyo	do	do	do	Plant in operation under special low-charge permit.
Henshaw, Park	Lassen	do	None		Project abandoned.
Cottonwood Light & Power Co.	Leadville	No	do		Project abandoned prior to revocation.
Smith & Sanborn	Medicine Bow.	do	do		Do.
Pikes Peak Hydro-electric Co.	Pike	Yes	Constructed.	Yes	Plant in operation under special low-charge permit.
Kern Power Co.	Santa Barbara.	No	do		Transmission line, which was under permit prior to cancellation. Permit is still in existence.
Wishon, A. G.	Sequoia	do.[2]	Under construction.		Rights transferred to the San Joaquin Power Co. Plant completed and in operation under permit.
Do	do	No	do		Abandoned on account of adverse court decision in litigation with Mount Whitney Power Co.
Mount Whitney Power Co.	do	Yes	No construction.		Plant constructed and in operation under permit.
Eastwood, J. S.	do	do	None		Rights transferred to Pacific Light & Power Corporation. Plant constructed and in operation under present form of permit. This is the Big Creek development.
Wishon, A. G.	Sierra	do	Under construction.	Yes	Transferred to San Joaquin Light & Power Co. Plant completed and in operation under agreement with Forest Service.
Knight, George A	do	do	None		On request of applicant preliminary permit under new regulations issued in lieu of former permit. Applicant failed to file application and case closed in 1913. No construction of any kind attempted.
Mammoth Power Co.	do	do	do		Transferred to Pacific Light & Power Corporation and covered by permits to that company in connection with the Big Creek project.
Stanislaus Electric Power Co.	do	do	Constructed.	Yes	Plant in operation under special low-charge permit.
Wilks, Gustav	Uncompahgre.	do	do	do	Properties purchased by Indiana-Colorado Mining & Milling Co., which now holds a free power permit.
Oregon Electric Power Co.	Wallowa	do	None		Temporary permit revoked on failure of company to take out final permit.

[1] Permit providing for special low rates of charge refused by company.
[2] Covered by Forest Service permit prior to revocation.

EXHIBIT R.

Concentration of water-power development in public-land States.

State.	Total developed power.	Total owned by large companies.		Per cent.	Total owned by small developers.	Per cent.
		Number of companies.	Amount of power.			
	Horsepower.		*Horsepower.*		*Horsepower.*	
California	530,000	[1] 10	486,900	[1] 92	43,100	8
Colorado	61,000	2	49,000	80	12,000	20
Idaho	34,000	2	28,000	82	6,000	18
Montana	103,000	1	97,900	86	5,100	14
Nevada	12,000	1	10,800	90	1,200	10
Oregon	100,000	[2] 3	90,000	[2] 90	10,000	10
Utah	75,400	2	66,100	88	9,300	12
Washington	220,000	2	195,000	89	25,000	11
Total	1,135,400	23	1,023,700	90	111,700	10

[1] In California, Southern California Combination, consisting of Los Angeles Railway Corporation, Southern California Edison Co., Southern Sierras Power Co., and San Joaquin Light & Power Co., have a combined development of 156,400 horsepower, or 30 per cent of total in State. The Pacific Gas & Electric Co. has development of 143,600 horsepower, or 27 per cent of total in State. The two groups have an aggregate development of 300,000 horsepower, or 57 per cent of the total in State.

[2] Includes Northwestern Electric Co.

MARCH 2, 1914.

SACRAMENTO ELECTRIC GAS & RWY. CO.
Incorp. April 1, 1896
Absorbed by Cal. G. & E. Corp., 1903

UNITED GAS & ELECTRIC CO.
Incorp. April 19, 1902
Absorbed by Cal. G. & E. Corp., Mar. 1904

BERKELEY ELECTRIC LIGHTING CO.
Incorp. June 4, 1894

FRESNO GAS & ELECTRIC CO.
Incorp. Dec. 14, 1888
Absorbed by Cal. G. & E. Corp., 1903

VALLEJO GAS CO.
Incorp. Oct. 28, 1904
Purchased by Cal. G. & E. Corp., Nov. 1904

CHICO GAS & ELECTRIC CO.
Incorp. Jan. 30, 1901

COLUSA GAS & ELECTRIC CO.
Incorp. July 29, 1901

MARYSVILLE GAS & ELECTRIC CO.
Incorp. May 12, 1896

NAPA GAS & ELECTRIC CO.
Incorp. July 29, 1899

NEVADA COUNTY GAS & ELECTRIC CO.
Incorp. May 25, 1901

PETALUMA GAS & ELECTRIC CO.
Incorp. April 12, 1899

SAN RAFAEL GAS & ELECTRIC LIGHT CO.
Incorp. Mar. 30, 1887.

SANTA ROSA LIGHTING CO.
Incorp. Sept. 15, 1888

WOODLAND GAS & ELECTRIC CO.
Incorp. Jan. 15, 1901

EDISON LIGHT & POWER CO OF SAN FRANCISCO

Several gas plants in San Francisco

SAN PEDRO ELECTRIC & POW
Gas plant 50,000 cu. ft. capaci
Capital stock purchased on M

SANTA BARBARA CONSOL. RY.
Controls street rwy. system in
Capital stock purchased on M
L. A.

SANTA BARBARA ELECTRIC LI
Steam plant at Santa Barbar
Capital stock purchased on M
L. A.

SANTA BARBARA GAS CO.
Gas plant 375,000 cubic feet c
Capital stock purchased on M
L. A.

LONG BEACH & ALAMITOS GA
Steam plant at Long Beach 3
Capital stock purchased on M
L. A.

POMONA & ONTARIO LIGHT &
Taken over by E. E. Co. of L.

WHITTIER LIGHT & FUEL CO.
Purchased by E. E. Co. of L. A
prior to 1908

PEOPLE'S GAS CO OF MONTRO
Purchased by E. E. Co. of L. A
prior to 1908

LONG BEACH INNER HARBOR
Taken over by Long Beach Co
1910

MERCHANTS MUTUAL LIGHT &
Inc. Feb. 1905
In 1909 population served 7,0
arcs and 8,000 incandescents.
Capital stock (1909):—Author
ing $150,000
Bonded debt:—$75,000 in 190
Consolidated with other prop
G. & E. Co. in Aug. 1909

LEADVILLE GAS & ELECTRIC
All property etc. purchased
by The Leadville Light & P

YAK MINING, MILLING & TU
Power plant sold to Leadv
& Power Co. in 1906.

SAN JOAQUIN ELECTRIC CO.

SAN JOAQUIN POWER CO.

Incorp. in Cal. Aug. 11, 1902 to supply light & power in Fresno and Hanford. Absorbed by San Joaquin Light & Power Co., in 1906

TULE RIVER CO.

Controlling interest sold to San Joaquin Light & Power Co.

POWER DEVELOPMENT CO.

BAKERSFIELD GAS & ELECTRIC CO.

BAKERSFIELD & KERN ELECTRIC RY.

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SAN JOAQUIN ELECTRIC CO.

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BAKERSFIELD GAS & ELECTRIC CO.

BAKERSFIELD & KERN ELECTRIC RY.

STANISLAU

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MONTEREY
MONTEREY
SALINAS W
KING CITY
MONTEREY

PARKSIDE
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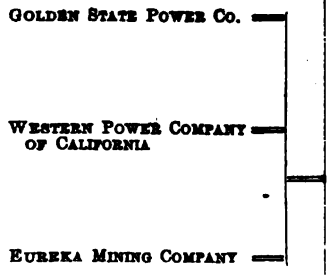
GOLDEN STATE POWER CO.
WESTERN POWER COMPANY OF CALIFORNIA
EUREKA MINING COMPANY

KESWICK ELECTRIC POWER CO. =
Absorbed by Northern Cal. P. Co., 1902

REDDING WATER CO. =
Absorbed by Northern Cal. P. Co., 1902

REDDING ELECTRIC LIGHT & POWER CO. =
Absorbed by Northern Cal. P. Co., 1902

TEHAMA ELECTRIC CO. =
Absorbed by Northern Cal. P. Co., 1902

REDDING GAS CO. =
Absorbed by Northern Cal. P. Co., 1902

BELLE VUE IRRIGATION CO. =
Absorbed by Northern Cal. P. Co., 1902

BATTLE CREEK POWER CO. =
Inc. Feb. 1906, Cal. Leased to Northern Cal. P. Co., which owns all stock till March 1956. Owned in 1908, 2000 kw. hydro plant at Battle Creek and 100 miles of transmission line.
Absorbed by Northern Cal. P. Co., 1902

WILLOWS WATER & LIGHT CO. =
Inc. Cal. 1886 under a 50-year franchise to supply electric light & water.
Absorbed by Northern Cal. P. Co., 1902

RED BLUFF GAS CO. =
Absorbed by Northern Cal. P. Co., 1902

SHASTA POWER CO. =
Inc. in June 1904, Cal. Taken over by Sacramento Valley Co. as of April 1, 1909. Had constructed a hydro plant on Bear Creek near Reading 2000 h.p.
Capital stock (1909):—Outstanding $174,924
Bonded debt (1909):—100,000 S. F. 6s.

NORTHERN LIGHT & POWER CO. =

PEOPLES POWER COMPANY OF WILLOWS, CAL. =

MONTAGUE ELECTIC LIGHT CO.

SISKIYOU ELECTRIC POWER CO.

YREKA ELECTRIC LIGHT CO.

FORT JONES ELECTRIC CO.

ETNA ELECTRIC LIGHT CO.

KAPPLAR POWER CO.

DUNSMUIR ELECTRIC LIGHT CO.

MOSSBRAE FALLS POWER & LIGHT CO.

ASHLAND ELECTRIC POWER & LIGHT CO.

Incorporated in Oregon in 1888
Entire capital stock owned by Siskiyou Electric Power & Light Co.

ROGUE RIVER (OREG.) ELECTRIC CO.

Controlled by California-Oregon Power Co.

Incorporated about 1907 in Oregon. Owns and operates a hydro property and transmission lines in Rogue River Valley, furnishing power and light to Medford, Grants Pass, Jacksonville, Gold Hill, and Central Point. Also sells power to other electric companies and to mines and irrigators. Owns 65 miles of high voltage transmission lines besides substations and distributing lines in 5 places. Population served, 35,000. Hydro plant at Gold Ray, Oreg.—installed about 2,700 h. p.

Capital stock (1913):—Authorized $700,000, outstanding $564,000. All owned by Siskiyou Electric Power & Light Co.

Bonded debt (1913):—$366,000. Prior Lien Sinking Fund Gold 5's; $314,000 subsidiary mortgage bonds.

PROSPECT CONSTRUCTION CO.

LAVA BEDS DREDGING CO.

MARIGOLD DREDGING CO.

OROVILLE WATER CO.

RIO RANCH CO.

OROVILLE LIGHT & POWER CO.

Stock sold to Oro Water Light & Power Co., prior to 1908

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EXHIBIT 8.

Water power projects on national forests.

NUMBER OF PERMITS IN FORCE NOV. 1, 1913, AND NUMBER OF PROJECTS UNDER THESE PERMITS CONSTRUCTED OR OPERATING, NUMBER UNDER CONSTRUCTION, AND NUMBER UPON WHICH CONSTRUCTION HAD NOT BEEN STARTED.

	Transmission lines only.															
	District 1—Length on forest land.		District 2—Length on forest land.		District 3—Length on forest land.		District 4—Length on forest land.		District 5—Length on forest land.		District 6—Length on forest land.		District 7—Length on forest land.		Total length on forest land.	
	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.
Permits in force:																
Secretary's—																
Commercial—																
Preliminary																
Final	3	24.3	2	6.9					3	28.0	1	7.3			9	36.5
Noncommercial																
Forester's—																
Commercial	1	1.2	4	83.9	2	55.0	5	24.6	7	57.4	2	7.4			21	229.5
Noncommercial																
District forester's—																
Commercial	5	63.9	10	17.6	2	19.7	1	1.2	28	164.1	4	4.8			50	271.3
Noncommercial			1	.9											1	.9
Supervisor's—																
Commercial	5	13.8							2	10.7					7	24.5
Noncommercial			2	4.6					2	1.8	3	11.7			7	18.1
Total	14	103.2	19	113.9	4	74.7	6	25.8	42	262.0	10	31.2			95	610.8
Projects constructed or operating:																
Secretary's	2	12.1	2	6.9					2	12.0	1	7.3			7	38.3
Forester's	1	1.2	3	75.6	2	55.0	5	24.6	7	57.4	2	7.4			20	221.2
District forester's	5	63.9	11	18.5	2	19.7	1	1.2	25	126.0	3	2.3			47	231.6
Supervisor's	5	13.8	2	4.6					3	12.5	2	5.7			12	36.6
Total	13	91.0	18	105.6	4	74.7	6	25.8	37	207.9	8	22.7			86	527.7

Water power projects on national forests—Continued.

NUMBER OF PERMITS IN FORCE NOV. 1, 1913, AND NUMBER OF PROJECTS UNDER THESE PERMITS CONSTRUCTED OR OPERATING, NUMBER UNDER CONSTRUCTION, AND NUMBER UPON WHICH CONSTRUCTION HAD NOT BEEN STARTED—Continued.

	Transmission lines only.															
	District 1—Length on forest land.		District 2—Length on forest land.		District 3—Length on forest land.		District 4—Length on forest land.		District 5—Length on forest land.		District 6—Length on forest land.		District 7—Length on forest land.		Total length on forest land.	
	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.	Number.	Miles.
Construction started but not operating:																
Secretary's																
Forester's			1	8.3											1	8.3
District forester's									1	.8	1	2.5			2	3.3
Supervisor's											1	6.0			1	6.0
Total			1	8.3					1	.8	2	8.5			4	17.6
Construction not started:																
Secretary's—																
Preliminary																
Final	1	12.2							1	16.0					2	28.2
Forester's																
District forester's									3	37.3					3	37.3
Supervisor's																
Total	1	12.2							4	53.3					5	65.5

	Power projects.															
	District 1—Power capacity.		District 2—Power capacity.		District 3—Power capacity.		District 4—Power capacity.		District 5—Power capacity.		District 6—Power capacity.		District 7—Power capacity.		Total power capacity.	
	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.
Permits in force:																
Secretary's—																
Commercial—																
Preliminary	1	16,200	8	4,694	1	3,842	3	3,771	12	269,620	11	74,915	1	14,050	37	387,092
Final	7	120,299	10	24,975			2	190	24	299,421	7	31,893			50	476,778
Noncommercial			1	212											1	212
Forester's—																
Commercial	2	20,000	3	3,080	1	3,300	2	167	10	44,860	6	32,623			24	104,030
Noncommercial									2	(?)	1	371			3	371
District forester's—																
Commercial							3	128	3	1,041	2	102			8	1,271
Noncommercial	9	1,488	8	1,382			5	567	6	2,031	1	90			29	5,558
Supervisor's—																
Commercial			1	1,750							2	1,755			3	3,505
Noncommercial	2	125	10	763					4	176	3	342			19	1,406
Total	21	158,112	41	36,856	2	7,142	15	4,823	61	617,149	33	142,091	1	14,050	174	980,223
Projects constructed or operating:																
Secretary's	3	4,070	5	2,120			1	90	10	22,663	5	2,513			24	31,456
Forester's	1	8,000	3	3,080	1	3,300	2	167	9	44,860	5	10,623			21	70,030
District forester's	4	918	4	570			5	268	8	2,522	1	8			22	4,286
Supervisor's			10	2,353					3	176	3	2,005			16	4,534
Total	8	12,988	22	8,123	1	3,300	8	525	30	70,221	14	15,149			83	110,506

Water power projects on national forests—Continued.

NUMBER OF PERMITS IN FORCE NOV. 1, 1913, AND NUMBER OF PROJECTS UNDER THESE PERMITS CONSTRUCTED OR OPERATING, NUMBER UNDER CONSTRUCTION, AND NUMBER UPON WHICH CONSTRUCTION HAD NOT BEEN STARTED—Continued.

	Power projects.															
	District 1—Power capacity.		District 2—Power capacity.		District 3—Power capacity.		District 4—Power capacity.		District 5—Power capacity.		District 6—Power capacity.		District 7—Power capacity.		Total power capacity.	
	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.	Number.	Horsepower.
Construction started but not operating:																
Secretary's	2	609	1	676			3	601	9	211,188	2	34,470			17	247,544
Forester's	1	12,000							1	(?)	2	22,371			4	34,371
District forester's	3	400	2	100			3	427	1	550	1	90			10	1,567
Supervisor's	2	125							1	(?)	2	92			5	217
Total	8	13,134	3	776			6	1,028	12	211,738	7	57,023			36	283,699
Construction not started:																
Secretary's—																
Preliminary	1	16,200	9	4,906	1	3,842	1	3,270	11	269,049	9	40,445	1	14,050	33	351,762
Final	2	115,620	4	22,179					6	66,141	2	29,380			14	233,320
Forester's									2	(?)					2	
District forester's	2	170	2	712							1	94			5	976
Supervisor's			1	160											1	160
Total	5	131,990	16	27,957	1	3,842	1	3,270	19	335,190	12	69,919	1	14,050	55	586,218

REPLIES TO QUESTIONS SUBMITTED BY CONGRESSMAN RAKER.

[Numbers refer to following tables.]

Question 1.—Fourteen (14) preliminary power permits of a total capacity of approximately 212,245 horsepower have been granted to permittees that had plants in operation at the time of receipt of the permits; they are the following cases: Nos. 38, 184, 202 to 228 inclusive, 240, 277, 299, and 308.

Question 2.—Twenty-seven (27) final power permits having a total capacity of approximately 85,508 horsepower have been granted to permittees that had plants in operation at the time of receipt of the permits; they are the following csaes: Nos. [1]14, [1]21, 66, 89, 103, 104, 119, 125, 139, 142, 143, 181, 184, 188, 189, [1]197, 227, [1]234, [1]237, 239, to 242 inclusive, 256, 278, 342, and 347.

Question 3.—Thirty-seven (37) final-power permits having an approximate total capacity of 180,090 horsepower have been granted to permittees theretofore in receipt of previous permits for the same site; they are the following cases: Nos.1, 5, 26, 33, 40, 47, 54, 57, 93, 97, 107, 122, 124, 134, 140, 154, 155, 161, 163, 164, 177, 184, 204, 227, 238, 248, 254, 261, 264, 280, 288, 292, 299, 301, 307, 324, and 348.

Question 4.—The number of preliminary power permits granted—

(*a*) which have been followed by final permits is five (5); they are the following cases: Nos. 1, 93, 99, 163, 280.

(*b*) which have lapsed is twenty-one (21); they are the following cases: Nos. 16, 46, 82, 111 to 114 inclusive, 123, 128, 129, 130, 133, 231, 240, 255, 257, 308, 319, 320, 321, and 339.

(*c*) for which final application is pending is seventeen (17); they are the following cases: Nos. 20, 43, 164, 202, 222 to 226 inclusive, 228, 277, 292, 311, 323, 324, 332, and 333.

(*d*) which have been followed by a final permit taken out by the successor to the preliminary permittee is four (4); they are the following cases: Nos. 18, 209, 210, 215.

(*e*) for which the date for filing final application has not yet arrived is nineteen (19); they are the following cases: Nos. 38, 116, 120, 132, 148, 162, 170, 187, 211, 232, 293, 299, 304, 309, 317, 318, 322, 344, and 349.

Question 5.—One hundred and nine (109) final-power permits involving approximately 131,445 horsepower are for projects, the construction of which has been completed; they are the following cases: Nos. 3 to 6 inclusive, 14, 17, 21, 23, 24, 26, 28, 37, 40, 44, 45, 47, 48, 53 to 58 inclusive, 70, 74 to 77 inclusive, 89, 90, 98, 100, 102 to to 105 inclusive, 107 to 110 inclusive, 117, 118, 119, 121, 122, 124 to 127 inclusive, 131, 135, 136, 138, 140, 142, 143, 147, 155, 179, 180, 181, 184, 188, 189, 190, 195, 197, 203, 217, to 220 inclusive, 229, 233, 238, 241, 243, 244, 245, 258, 259, 264, 265, 271, 273, 274, 282, 283, 286, 287, 295, 298, 301, 302, 303, 305, 306, 310, 312, 325, 326, 328, 330, 331, 340, 341, 342, 347, 348.

Question 6.—Thirty-five (35) final-power permits involving approximately 117,215 horsepower are for projects, the construction of which is under way; they are the the following cases: Nos. 2, 9, 11, 13, 19, 22, 25, 27, 29, 30, 31, 42, 87, 88, 92, 115, 134, 144, 149, 150, 151, 154, 163, 193, 227, 230, 239, 242, 256, 270, 288, 300, 307, 313, 314.

Question 7.—One hundred and thirty-five (135) final-power permits involving approximately 632,030 horsepower are for projects on which construction has not been started; they are the following cases: Nos. 1, 7, 8, 10, 12, 15, 32 to 36 inclusive, 39, 41, 49, 50, 51, 52, 59 to 69 inclusive, 71, 72, 73, 78 to 81 inclusive, 83 to 86 inclusive, 91, 93 to 97 inclusive, 99, 101, 106, 137, 139, 141, 145, 146, 152, 153, 164 to 169 inclusive, 171 to 178 inclusive, 182, 183, 185, 186, 191, 192, 196, 198, 201, 204 to 208 inclusive, 212, 213, 214, 216, 221, 234 to 237 inclusive, 246 to 254 inclusive, 260 to 263 inclusive, 266 to 269 inclusive, 272, 275, 276, 278 to 281 inclusive, 285, 289 to 292 inclusive, 294, 296, 297, 315, 316, 327, 329, 334 to 338 inclusive, 343, 346.

Question 8.—A total of two hundred and eighty-two (282) final-power permits have been granted involving approximately 881,521 horsepower; they are the following cases: Nos. 1 to 15 inclusive, 17, 19, 21 to 37 inclusive, 39 to 42 inclusive, 44, 45, 47 to 81 inclusive, 83 to 98 inclusive, 100 to 110 inclusive, 115, 117, 118, 119, 121, 122, 124 to 127 inclusive, 131, 134 to 147 inclusive, 149 to 155 inclusive, 161, 163 to 169 inclusive, 171 to 186 inclusive, 188 to 198 inclusive, 201, 203 to 208 inclusive, 212, 213, 214, 216 to 221 inclusive, 227, 229, 230, 233 to 239 inclusive, 241 to 254 inclusive, 256, 258 to 276 inclusive, 278 to 292 inclusive, 294 to 298 inclusive, 300 to 303 inclusive, 305, 306, 307, 310, 312 to 316 inclusive, 325 to 331 inclusive, 334 to 338 inclusive, 340 to 343 inclusive, 345 to 348 inclusive.

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[1] Final permit taken out under a different name than that of operating company.

Question 9.—Fifty-one (51) final-power permits involving approximately 182,394 horsepower have been issued since January 1, 1912, to permittees that had not received previous permits; they are the following cases: Nos. 3, 7, 13, 19, 27, 32, 37, 42, 55, 73, 74, 77, 96, 100, 126, 131, 134, 135, 136, 146, 147, 165, 169, 188, 189, 192, 209, 216, 220, 243, 260, 276, 282, 283 to 286 inclusive, 288, 289, 305, 345; also the following:

Forest.	Permittee.	Total horsepower of site.
Leadville	Loyal Gold Mining & Milling Co	50
Pend Oreille	Vulcan Mining Co	(1)
Beaverhead	Wisdom Electric Co	(1)
Trinity	Globe Consolidated Mining Co	150
Inyo	Southern Sierras Power Co	2,011
Eldorado	The Truckee River General Electric Co	28,220
Ruby	Elko-Lamoille Co	178
Kaniksu	The International Power & Manufacturing Co	112,000
Leadville	Tin Cup Gold Dredging Co	125
Manti	City of Manti	30

[1] Less than 100.

Question 10.—Eleven (11) preliminary-power permits and fourteen (14) final-power permits involving horsepowers of approximately 10,539 and 149,809, respectively, have been granted within the past two years to permittees which have been already in receipt of final permits; they are the following cases:

(*a*) Preliminary permits: Nos. 38, 99, 129, 129, 240; also the following:

Forest.	Permittee.	Total horsepower of site.
Colorado	Greeley Hydro-Electric Co. (Big South Fork Reservation)	205
Do	Greeley Hydro-Electric Co. (Barnes Meadow Reservation)	256
Do	Greeley Hydro-Electric Co. (Forks Reservation)	287
Do	Greeley Hydro-Electric Co. (Beaver Reservation)	94
Do	Greeley Hydro-Electric Co. (Reservation No. 3)	6,739
Pocatello	D. L. Evans	237

(*b*) Final permits: Nos. 26, 97, 163, 188, 189, 193, 239, 241, 242, 275, 342; also the following:

Forest.	Permittee.	Total horsepower of site.
Leadville	W. P. Eyre	373
Plumas	Oro Electric Corporation	1,430
Sierra	Pacific Light & Power Corporation	127,[illegible]

Question 11.—Forty-four (44) permits for transmission lines have been granted since January 1, 1912, under the act of February 15, 1901.

Ten (10) easements for transmission-line rights of way have been granted since January 1, 1912, under the act of March 4, 1911.

Question 12.—Fifty-eight (58) power permits, involving approximately 153,089 horsepower, have been granted since January 1, 1912, to permittees who had not been operating prior to that date; they are the following cases:

Nos. 3, 7, 13, 19, 26, 27, 32, 37, 42, 55, 73, 96, 97, 99, 100, 126, 131, 134, 135, 136, 146, 147, 162, 163, 165, 169, 192, 193, 209, 216, 220, 243, 260, 275, 276, 282 to 286, inclusive, 288, 289, 305, 345; also the following:

Forest.	Permittee.	Total horsepower of site.
Kaniksu	International Power & Manufacturing Co	112,000
Leadville	Tin Cup Gold Dredging Co	125
Ruby	Elko-Lemoille Co	178
Beaverhead	Wisdom-Electric Co	(1)
Pend Oreille	Vulcan Mining Co	(1)
Leadville	Loyal Gold Mining & Milling Co	50
Manti	City of Manti	30
Leadville	W. P. Eyre	373
Pocatello	D. L. Evans	237
Colorado	Greeley Hydroelectric Co. (Big South Fork Reservoir)	205
Do	Greeley Hydroelectric Co. (Barnes Meadow Reservoir)	256
Do	Greeley Hydroelectric Co. (Forks Reservoir)	287
Do	Greeley Hydroelectric Co. (Beaver Reservoir)	94
Do	Greeley Hydroelectric Co. (Reservoir No. 3)	6,730

NOTE.—The information contained in questions 1 to 8, inclusive, is up to July 1, 1913; in the remaining questions up to May 1, 1914.

[1] Less than 100.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE.

Power capacities and total receipts, June 30, 1913.

DISTRICT 1.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
1	Beartooth	Bouscaren, J. P.	Conduits and power house; Nov. 23, 1912	$370.00	3,620	3,620		Open.
2	do	New World Reduction & Power Co.	Conduit and power house; July 8, 1908	[1] 26.25	(38)	(38)	335	Closed; project taken over by and permit granted to Western Smelting & Power Co.
3	do	Western Smelting & Power Co.	Conduit and power house; Aug. 22, 1911	6.20	38	38		Open.
4	do	Cooke City Mining & Reduction Co.	Conduit, power house, and transmission line; Apr. 9, 1910.	(2)	60	60	134	Closed; permit superseded by later one to same company.
5	do	Cooke Mining & Reduction Co.	Conduit, power house, and transmission line; Aug. 2, 1912.	(2)	60	60	134	Open.
6	Clearwater	Pierce Co. (Ltd.)	Conduit; Nov. 17, 1910					
7	Coeur d'Alene	Home Builder Mining & Development Co.	Reservoirs, conduits, power house, and transmission line; Jan. 2, 1913.	(2)	100	100		Do.
8	Deerlodge	Coleman & McDonald	Conduit and power house; July 20, 1908	[1] 114.00	1,100	1,100		Closed; revoked for failure to begin construction.
9	do	State of Montana	Conduit, power house, and transmission line; Oct. 2, 1911.	(2)	(500)	500		Open.
10	Helena	Julius Berg	Power house, reservoir, and conduit; Dec. 17, 1909.	[1] 20.00	234	234		Closed; revoked for failure to begin construction.
11	do	Capital City Power Co.	Reservoir; Dec. 21, 1907	[1] 1,530.00	(12,000)	1,130		Open.
12	do	Golden Curry Consolidated Mining Co.	Resevoir, conduit, power house, and transmission line; July 9, 1907.	[1] 45.00	(30)	(25)		Closed; new permit granted.
13	do	do	Conduit, power house, and transmission line; July 9, 1907.	(2)	(30)	(25)		Open.
14	do	Helena Power Transmission Co.	Reservoir and power house; Dec. 4, 1906	[1] 728.00	8,000	123	18,760	Do.
15	Kaniksu	Panhandle Electric Ry. & Power Co.	Conduit and reservoir; Jan. 7, 1909	[1] 58.00	(8,000)	6,768		Closed; failure to begin construction.
16	do	do	Reservior, conduit, and power house; Mar. 14, 1911.	1,050.00	13,400	10,500		Closed; failure to make final application.
17	do	Inland Portland Cement Co.	Conduit and reservoir	[1] 624.94	2,560	2,380	4,730	Open.
18	Kootenai	Ehlers, J. H.	Conduit and power house	90.00	900	900		Closed; final permit taken out by Milwaukee Electric Power Co.
19	do	Milwaukee Electric Power Co.	Conduit, power house, and transmission line.	57.10	571	571		Open.

20	.....do.....	Kootenai Power Construction Co.	Reservoir, conduit, and transmission line..	540.00	16,200	7,700	.....	Do.
21	Madison.....	Montana Reservoir & Irrigation Co.	Conduit, power house, and transmission line; Dec. 27, 1910.	(2)	134	134	134	Do.
22	.....do.....	The Investors Co.....	Conduit and transmission line; Oct. 14, 1911.	(2)	50	48	.....	Do.
23	.....do.....	Montana - Illinois Copper Mining Co.	Reservoir and conduit; Nov. 8, 1911.....	(2)	50	44	150	Do.
24	Missoula.....	Anaconda Copper Mining Co.	Reservoir and conduit; Jan. 29, 1910.....	[1] 30.30	1,200	400	1,474	Do.
25	.....do.....	Bitterroot Power & Electric Co.	Reservoir, conduit, and power house; June 11, 1910.	[1] 380.00	3,000	2,200	.....	Closed; nonpayment of rental charges.
26	Nezperce.....	Grangeville Electric Light & Power Co.	Conduits, power houses, and transmission line; July 22, 1908.	364.25	310	310	418	Open.
27	.....do.....	Stowell, William H.....	Conduit and power house; Nov. 15, 1911...	(2)	15	15	25	Do.
28	.....do.....	Grangeville Electric Light & Power Co.	Conduits and power house; July 22, 1908..	[1] 47.97	195	195	418	Closed; new permit issued to succeed this one and one other.
29	Pend Oreille....	Last Chance Mining Co.....	Conduit; Mar. 21, 1910.....	(2)	25	25	100	Open.
30	.....do.....	Pack Saddle Mining Co.....	Conduit; Nov. 9, 1908.....	(2)	25	24	.....	Closed; revoked for failure to begin construction.
31	.....do.....	Young, P. D.....	Conduit; Sept. 7, 1908.....	(2)	25	10	.....	Open.
32	.....do.....	Garrett, W. V.....	Conduit and power house; July 2, 1912....	(2)	15	15	.....	Do.

DISTRICT 2.

33	Arapaho.....	Sperry, E. A. & W. L.....	Reservoir and pipe line; Aug. 17, 1908.....	.....	110	(70)	.....	Closed; project abandoned.
34	.....do.....	Hine, Henry.....	Reservoir; Nov. 3, 1906.....	220.00	(2)	(2)	.....	Do.
35	Bighorn.....	Campbell & Perkins.....	Conduit; Sept. 16, 1908.....	[1] 58.00	4,000	(3,500)	.....	Closed; failure to begin construction. Project abandoned.
36	.....do.....	Tongue River Electric Power & Transmission Co.	Conduit, dam, and power house; Dec. 5, 1908.	[1] 20.00	(5,000)	(4,500)	.....	Closed; project abandoned.
37	Black Hills.....	Dakota Power Co.....	Conduit and transmission line; Dec. 30, 1904.	61.14	619	411	2,400	Open.
38	.....do.....	.....do.....	Conduit (second development and third); Oct. 21, 1912.	50.60	1,243	506	.....	Do.
39	Cochetopa.....	Rawley Mining Co.....	Reservoir, conduits, and power house; May 4, 1909.	(2)	(160)	(160)	.....	Do.
40	.....do.....	Salida Light, Power & Utility Co.	Conduits; Sept. 18, 1905.	395.20	(450)	(300)	750	Do.
41	Colorado.....	Hinderlider & Morrison.....	Reservoir, North Park; Sept. 3, 1907.....	[1] 520.00	6,770	546	.....	Closed; failure to begin construction.
42	.....do.....	The Greeley Hydro-Electric Co.	Reservoir, conduits, power house, and transmission line; Nov. 14, 1911, and Mar. 8, 1912.	86.30	909	863	.....	Open.
43	.....do.....	The Greeley Hydro-Electric Co. (Little South Fork).	Conduit and power house; Mar. 15, 1912...	28.50	362	358	.....	Do.

[1] Not based on rental capacity in horsepower.

[2] No rental charges.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE—continued.

Power capacities and total receipts, June 30, 1913—Continued.

DISTRICT 2—Continued.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
44	Colorado	Laramie-Poudre Reservoir & Irrigation Co.	Conduit, power house, and transmission line; Nov. 26, 1909.	(2)	(287)	(287)	525	Closed; plant taken over by Greeley Hydro-Electric Co., to whom final permit granted.
45	do	Ramsey, Hugh B	Conduit; June 20, 1906	(2)	(15)	(10)	18	Open.
46	do	City of Fort Collins	Conduit and power house; Oct. 31, 1911	(2)	612	609		Revoked; failure to file final application.
47	Durango	San Juan Water & Power Co.	Reservoirs, conduits, and transmission lines; Mar. 2, 1907.	[1] $160.00	3,287	651	6,000	Open.
48	do	Animas Power & Water Co.	Reservoir, conduits, and transmission lines; Mar. 2, 1907.	[1] 437.25	3,287	651	6,000	Closed; succeeded by San Juan Water & Power Co.
49	do	do	Reservoirs and conduits; Mar. 2, 1907	[1] 47.00	(2,300)	(?)		Closed; project abandoned; no market.
50	do	do	Reservoir and conduit; Mar. 2, 1907	[1] 91.00	(5,050)	(?)		Do.
51	do	Tom Moore M. & M. Co	Conduit; Nov. 2, 1907	(2)	(20)	(15)		Closed; project abandoned.
52	do	Gold Mines & Power Co	Reservoir and conduit; Sept. 24, 1907	(2)	(50)	(15)		Closed; nonuse.
53	Gunnison	United Colorado Mines Co	Conduit, power house, and transmission line; June 21, 1909.	(2)	(90)	(90)	300	Open.
54	Holy Cross	Central Colorado Power Co.	Conduit and power house, Shoshone; July 20, 1908 (Trowbridge).		(5,300)	(4,800)	18,000	Closed: revoked for failure to make application for permit
55	do	Eagle Mining & Milling Co.	Conduit; Mar. 21, 1910	(2)	(55)	(55)	130	Open.
56	do	East Lake Mining & Milling Co.	Conduit; Oct. 28, 1907	(2)	(20)	(20)	40	Do.
57	do	Glenwood Light & Water Co.	Conduits; June 20, 1905	[1] 30.93	(250)	(150)	530	Do.
58	do	De Remer et al	Canal, pipe line, and power station; July 3, 1902.		5,300	(4,800)		Closed; succeeded by Central Colorado Power Co.
59	do	Grand River Power & Transmission Co.	Pipe line; Aug. 17, 1908		(5,300)	(4,800)		Do.
60	Leadville	Cottonwood Light & Power Co.	do		(350)	(15)		Closed; permit relinquished.
61	do	Lord & Smith	Reservoir; Feb. 17, 1908		(21,000)	(1,900)		Closed; failure to begin construction.
62	do	do	Pipe line; May 14, 1908	[1] 10.00	(3,000)	(150)		Do.
63	do	McAllister & Wilmot	Pipe line; May 24, 1908	[1] 7.50	(200)	(75)		Closed; permit relinquished.
64	do	Sargent Mining & Milling Co.	Conduit, power house, and transmission line; Oct. 31, 1906.	(2)	(5)	(5)		Closed; permit relinquished; no longer desired.

65	.....do.....	Smith, M. C.	Pipe line; Dec. 4, 1907	.....	(40)	(40)	.....	Closed; failure to begin construction.
66	.....do.....	Summit County Power Co.	Reservoirs, conduits, and power houses; Mar. 18, 1908.	[1] 75.00	(300)	(200)	.....	Do.
67	.....do.....	Foster, W. H.	Ditch and pipe line; Dec. 24, 1907	[1] 45.00	(200)	(100)	.....	Do.
68	.....do.....	Baker, W. H.	Conduits and reservoir; June 11, 1907	[1] 112.50	1,050	(150)	.....	Closed; project abandoned and permit relinquished.
69	.....do.....	Cascade Mining, Milling, Prospecting & Power Co.	Conduit, power house, and dam site; Sept. 11, 1909.	([2])	(425)	(400)	.....	Closed; revoked for failure to begin construction.
70	.....do.....	Manhattan M. & P. Co.	Conduit, power house, and transmission line; May 28, 1906.	([2])	(20)	(20)	50	Open.
71	.....do.....	The Princeton Mining Co.	Conduit, power house, and transmission line; June 26, 1911.	111.34	354	354	.....	Closed; revoked for failure to begin construction
72	.....do.....	Wallace, A. C., et al.	Reservoir, conduit, power house, and transmission line; Apr. 24, 1911.	48.34	353	353	.....	Closed; project abandoned and permit relinquished.
73	.....do.....	Eyre, W. P.	Reservoir and conduit; Jan. 15, 1912	40.50	375	254	.....	Open.
74	.....do.....	The Summit County Power Co.	Conduits and transmission lines; Sept. 23, 1907.	84.50	348	169	1,500	Do.
75	Montezuma.....	Morning Star Mining Co.	Conduit; Jan. 20, 1909	([2])	(7)	(5)	(40)	Do.
76	.....do.....	Zimmerman, Leopold	Conduit; Sept. 26, 1910	28.63	132	78	300	Closed; transferred to the Rico Mining Co.
77	.....do.....	The Rico Mining Co.	.....do.....	23.40	132	78	300	Open.
78	Pike.....	Sanford, A. B.	Reservoir and pipe-line; Feb. 1, 1908	[1] 96.00	1,441	1,407	.....	Closed; succeeded by Home Power & Irrigation Co.
79	.....do.....	South Platte Power Co.	Reservoir, conduit, and power house; Apr. 13, 1909.	[1] 46.50	(2,500)	(1,250)	.....	Closed; revoked for failure to begin construction.
80	.....do.....	Wilson, A. E.	Ditch and pipe-line; Aug 1, 1907	[1] 70.00	(2,500)	(1,250)	.....	Closed; succeeded by South Platte Power Co.
81	.....do.....	Highland Power Co.	Reservoir, conduit, and power house; July 12, 1910.	143.00	1,580	1,430	.....	Closed; project temporarily abandoned.
82	.....do.....	Home Power & Irrigation Co.	Reservoir, conduits, and power house; July 21, 1910.	140.70	1,441	1,407	.....	Closed; failure to make final application.
83	.....do.....	Apple, Henry	Reservoir and conduit; May 13, 1908	[1] 50.00	(4,200)	(3,000)	.....	Closed; revoked for failure to begin construction.
84	.....do.....	Charter Raton M. & M. C.	Power plant and mill site: Dec. 25, 1906	[1] 138.00	(40)	(20)	.....	Do.
85	.....do.....	Geneva Power Co.	Reservoir and conduit; Dec. 23, 1908	[1] 266.00	(145)	(110)	.....	Closed; permit relinquished.
86	.....do.....	Mather, J. Bruce	Reservoir and pipe-line; May 15, 1906	[1] 242.00	(90)	(70)	.....	Closed; transferred to Geneva Power Co.
87	.....do.....	Allen & Maloney	Conduits; Oct. 11, 1909	41.57	1,110	258	.....	Open.
88	.....do.....	Clinton M. M. & T. Co.	Conduit, power house, and transmission line; Sept. 13, 1911.	([2])	(25)	(25)	(50)	Do.
89	.....do.....	Colorado Springs L. H. & P. Co.	Conduit; June 17, 1911	432.25	896	455	3,000	Do.
90	.....do.....	Green & Clear Lakes Co.	Reservoir and conduit; Dec. 4, 1906	[1] 875.00	(500)	(50)	1,800	Do.
91	.....do.....	Heckman, Chas. F. W.	Reservoir, conduits, and power house; Mar. 12, 1907.	[1] 253.00	(500)	(450)	.....	Closed; revoked for failure to continue construction.
92	Rio Grande.....	Barnes, Chas. S.	Reservoir, conduit, and power house; Dec. 18, 1909.	188.16	676	557	.....	Open.
93	.....do.....	Parsons, W. U. S.	Conduit; Nov. 19, 1909	55.67	897	279	.....	Do.

[1] Not based on rental capacity in horsepower.

[2] No rental charges.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE—continued.

Power capacities and total receipts, June 30, 1913—Continued.

DISTRICT 2—Continued.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
94	Rio Grande	Tabor and Frank	Conduits 1 and 2; May 21, 1909	$137.60	995	991		Closed; failure to begin construction; project temporarily abandoned.
95	Routt	Northern Colorado Light & Power Co.	Conduit and power house; Aug. 24, 1904		(40)	(40)		Closed; project abandoned.
96	do	Farwell Mountain Copper Co.	Reservoir; Jan. 24, 1912	(2)	(562)	(506)		Open.
97	San Isabel	Cornwell, L. F	Reservoir and conduit; May 5, 1911	105.00	150	75		Do.
98	do	Marion Mines & Mills	Rservoir and conduit; Sept. 18, 1907	(2)	40	(10)	100	Do.
99	do	Cornwell, L. F	Reservoirs (Brush Creek); Jan. 29, 1912	28.20	214	214		Do.
100	do	Cuchara Lumber & Supply Co.	Reservoir and conduit; June 22, 1913	(2)	(50)	(25)		Do.
101	Sopris	Montrozona Gold Mining Co.	Conduit; Oct. 10, 1907	(2)	(45)	(45)		Closed; project abandoned.
102	do	Colorado Yule Marble Co. [3]	Conduit (Kline Falls); Apr. 20, 1907	[1] 32.50	(218)	(150)		
103	do	do. [3]	Conduit (Lost Trail); Nov. 17, 1910	(2)	(85)	(40)	1,750	Open.
104	do	do. [3]	Conduit (Yule Creek); Nov. 17, 1910	(2)	(100)	(90)		
105	do	Tam O'Shanter Montezuma Mines & Development Co.	Conduits; Oct. 11, 1911	(2)	(100)	(20)	140	Do.
106	Superior	Minnesota Canal & Power Co.	Reservoirs; June 20, 1910	3,858.00	20,000	12,860		Do.
107	Uncompahgre	Wilke, Gustav	Reservoir and conduit; Aug. 17, 1908	(2)	(35)	(35)		Closed; succeeded by Indiana-Colorado M. & M. Co.
108	do	Thistle, M. L	Conduit; Dec. 8, 1909	(2)	(50)	(50)	125	Open.
109	do	Indiana-Colorado Mining & Milling Co.	Conduit; Oct. 12, 1910	(2)	(35)	(35)	250	Do.
110	White River	Kamm, J. F	Conduit; Nov. 13, 1907	(2)	(30)	(30)	(?)	Do.
111	Washakie	Beck Mining Co	Conduit, power house, and transmission line; Apr. 17, 1912.	11.27	338	338		Closed; failure to file figal application.

DISTRICT 3.

112	Alamo	Alamogordo Water Power Co.	Conduit; May 5, 1911	$11.70	198	117		Closed; failure to make final application.
113	Apache	Udall, Jos. & D. K.	Conduit and power house; Dec. 26, 1911	5.10	79	51		Do.
114	Coronado	Alexander & Hinckley	Reservoir, conduit, and power house; Feb. 18, 1911.	71.20	712	712		Closed; failure to pay rental charge.
115	do	Great Western Power Co.	Reservoirs, conduits, and power houses; June 17, 1908.	[1] 2,412.00	(2,800)	(2,800)		Closed; revoked for failure to continue construction.
116	Gila	Boulware & Johnson	Reservoirs, conduits, and power houses; May 27, 1912.	266.10	3,842	2,661		Open.
117	Tonto	Arizona Power Co.	Reservoir, conduit, power house, and transmission line; June 17, 1908.	[1] 3,419.45	(3,400)	(3,240)	9,000	Do.

DISTRICT 4.

118	Cache	City of Logan, Utah	Conduit, power house, and transmission line.	(2)	450	(400)	620	Open.
119	Caribou	Bear Lake Power Co.	Conduit; May 22, 1909	[1] 62.14	137	57	240	Open; plant controlled by the Utah Power & Light Co.
120	Fillmore	Beauregard & Duggins	Conduit; Nov. 2, 1912	11.78 (?)	323	157		Open.
121	Fishlake	Stougaard, Chas. S.	Conduit, power house, and transmission line; Mar. 20, 1913.	(2)	5	5	9	Do.
122	Lemhi	Mackay Light & Power Co.	Conduit, power house, and transmission line; Aug. 10, 1910.	26.25	90	90	135	Do.
123	do	Hanson, C. V	Conduit, power house, and transmission line; Mar. 19, 1912.	3.00	60	60		Closed; failure to file final application.
124	Manti	Spring City Light & Power Co.	Conduit; June 25, 1906	[1] 55.60	30	29	40	Open.
125	Nebo	Knight Power Co.	Conduit; Apr. 1, 1909	67.03	328	157	450	Open; plant controlled by Utah Power & Light Co.
126	Palisade	Teton Valley Power & Milling Co.	Conduit, power house, and transmission line; Apr. 26, 1913.	(2)	77	77		Open.
127	Pocatello	Idaho Light & Power Co.	Conduit and power house; Feb. 20, 1908.	[1] 146.13	46	46	200	Closed; transferred to L. Evans, the successor to D. company.
128	do	Jones, L. D	Conduit; June 4, 1910	56.00	230	160		Closed; failure to file final application.
129	do	Idaho Light & Power Co.	Conduit; Mar. 27, 1911	45.50	230	160		Do.
130	do	Dolbeer & Sonnekalb	Conduit, power house, and transmission line; Aug. 30, 1911.	4.70	47	47		Do.
131	do	Evans, D. L	Conduit, power house, and transmission line; Feb. 20, 1908.	(2)	46	46	200	Open.
132	Ruby	McBride, B. G	Conduit, power house, and transmission line; Sept. 13, 1912.	8.20	178	169		Do.

[1] Not based on rental capacity in horsepower. [2] No rental charges. [3] Same power house used for these three conduits.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE—continued.

Power capacities and total receipts, June 30, 1913—Continued.

DISTRICT 4—Continued.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
133	Salmon	Ross, Edgar C	Conduit; July 27, 1911	$0.22	4.5	1.5		Closed; project abandoned and permit surrendered.
134	do	Ross, A. S	Conduit and transmission line; Dec. 16, 1911.	5.80	100	46		Open.
135	do	Continental Milling & Power Co.	Conduit and transmission line; Oct. 29, 1912.	(2)	80	80	150	Do.
136	do	Kitty Burton Gold Mines Co.	Conduit; June 5, 1912	(2)	100	95	200	Do.
137	Targhee	Warm River Light & Power Co.	Conduit, power house, and transmission line; Feb. 19, 1907.	[1] 120.00	3,000	(?)		Closed; revoked for failure to begin construction.
138	Wasatch	Mill Creek Power Co	Conduit and power house; Mar. 22, 1906	[1] 623.98	171	170	402	Open; in litigation; controlled by Utah Power & Light Co.
139	do	Utah County Light & Power Co.	Conduit, power house, and transmission line; Jan. 16, 1907.	[1] 814.36	(720)	500	2,280	Do.
140	do	Columbus Consolidated Mining Co.	Conduit and transmission line; Feb. 2, 1907.	[1] 168.75	241	241	804	Open.
141	do	Continental Mines & Smelt- Co.	Conduit; May 12, 1907	[1] 60.00	87	64	280	Closed; transferred to Michigan-Utah Mining Co.
142	do	Utah County Light & Power Co.	Conduit; July 16, 1907	[1] 814.36	(400)	(370)	2,000	Open; in litigation.
143	do	Mill Creek Power Co	Conduit; Apr. 16, 1908	[1] 134.45	467	202	1,500	Do.
144	do	Mercer, Jed J	Conduit and power house; June 8, 1909	[1] 34.50	500	500		Closed; revoked for failure to continue construction.
145	do	Earl, Chas. W	Conduit and power house; Mar. 25, 1909	94.50	500	500	(?)	Closed; revoked for failure to construct.
146	do	Ophir Hill Consolidated Mining Co.	Conduit; June 6, 1912	(2)	200	80		Open.
147	do	Michigan-Utah Mining Co	Conduit; Aug. 23, 1912	(2)	87	64	280	Do.
148	Weiser	Bush, W. D	Conduits and power houses; Feb. 3, 1913	279.00	3,270	2,790		Do.

DISTRICT 5.

149	Angeles	Electric Power Co.	Conduit and power house; Oct. 4, 1897	[1] $480.00	(2,330)	(2,330)		Open.
150	do	Union Power Co.	Conduits and power house; June 22, 1898	[1] 195.00	779	(3)		Closed; permit surrendered.
151	do	Arrowhead Reservoir & Power Co.	Power plant; Oct. 28, 1905	[1] 30.00	(75)	(3)		Do.
152	do	Barker, C. O	Dams, conduit, and power house; July 13, 1906.	[1] 200.00	280	(3)		Do.
153	do	Poole, A. E	Conduit; Oct. 15, 1907	[1] 25.00	90	(3)		Closed; rights transferred.
154	do	Baldwin, Cyrus G	Conduits; Oct. 20, 1899	235.25	1,107	786		Open.
155	do	Mentone Power Co.	Conduit; Nov. 24, 1903	[1] 631.83	(805)	(535)	2,000	Do.
156	do	Southern California Edison Co.	Conduits; project A; May 1, 1906	[1] 1,687.17	148	54	333	Do.
157	do	do	Conduits; project B; May 1, 1906	[1] 7,523.69	806	630	4,000	Do.
158	do	do	Conduit and transmission line; project C; May 1, 1906.	[1] 14,730.09	881	485	4,000	Do.
159	do	do	Conduit, power house, and transmission line; project D; May 1, 1906.	[1] 4,978.37	388	367	1,333	Do.
160	do	do	Conduits; project E; May 1, 1906	[1] 3,406.45	282	175	667	Do.
161	do	Consolidated Reservoir & Power Co.	Conduit; Jan. 18, 1909	[1] 220.00	(170)	(170)		Closed; revoked for failure to construct; succeeded by case Dec. 27, 1912.
162	do	Consolidated Reservoir & Transmission Co.	Conduit; Dec. 27, 1912	[1] 32.30	571	323		Open.
163	do	Union Power Co.	Conduits and power house; Apr. 28, 1911	[1] 60.50	1,529	1,138		Do.
164	do	Pluth, Marcus	Conduit; Aug. 19, 1911	[1] 27.30	700	546		Do.
165	do	Little Rock Power & Water Co.	Reservoir and conduit; July 13, 1912	36.40	356	338		Do.
166	California	Snow Mountain Electric Power Co.	Reservoir; July 11, 1907	[1] 75.00	(3)	(3)		Closed; reservoir only; no data on head and stream flow.
167	do	do	Reservoir; Feb. 6, 1907	[1] 5,720.00	(5,220)	(2,300)		Closed; temporarily abandoned by company.
168	Cleveland	Ramona Power & Irrigation Co.	Power house; Mar. 24, 1910	(2)				Closed; revoked for failure to begin construction.
169	do	Lewis, D. W	Reservoir, conduit, and power house; Dec. 26, 1911.	(2)	155	(5)		Closed; failure to begin construction work.
170	do	Volcan Land & Water Co.	Conduit; Jan. 8, 1913	(2)	(3,600)	(63)		Open.
171	Eldorado	Rubicon Water Power Co.	Reservoirs, conduits, and power houses; Nov. 23, 1905.	[1] 2,985.00	(46,300)	(3)		Closed; revoked for failure to construct.
172	do	Mokelumne River Power Co.	Reservoir and conduit; May 22, 1911	2,526.57	14,100	7,870		Open.
173	Inyo	Baker, M. L.	Pipeline and power house; Apr. 10, 1907	[1] 90.00	(1,000)	925		Closed; permit surrendered.
174	do	Bishop Creek Gold Co.	Power plant No. 1	[1] 30.00	354	(3)		Closed; transferred to Bishop Creek Mining & Milling Co.
175	do	do	Power plant No. 3; June 8, 1907	[1] 40.00	530	(3)		Do.
176	do	Bishop Creek Milling Co.	Reservoir and pipeline No. 2	[1] 43.12	176	176		Closed; revoked for failure to pay charges.
177	do	Nevada-California Power Co.	Conduit and power house; Nos. 2 and 3; Dec. 7, 1907.	[1] 120.00	2,430	2,260		Closed; revoked for failure to file regular application and pay charges.

[1] Not based on rental capacity in horsepower. [2] No rental charges. [3] No data. [4] Granted by special act of Congress, May 1, 1906. [5] Noncommercial; no data.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE—continued.

Power capacities and total receipts, June 30, 1913—Continued.

DISTRICT 5—Continued.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
178	Inyo	Nevada-California Power Co.	Reservoir No. 2	[1] $370.00(?)	(3)	(3)		Closed; revoked for failure to construct.
179	do	do	Plant 5 (temporary permit)	(3)	310	99		Closed; closed by a later permit.
180	do	Nevada Power Mining & Milling Co.	Pipeline and station buildings; May 11, 1905.	[1] 250.00	(4,000)	(4)		Closed; interests transferred to Nevada-California Power Co.
181	do	do	Reservoir and pipeline; June 26, 1906	(3) (0)	(176)	(176)		Do.
182	do	Smith, Fred R.	(?)	[1] 20.00	(1,000)	(1,000)		Closed; revoked for failure to construct.
183	do	Snyder, Wm., et al.	Pipe line and power house; May 14, 1907	[1] 50.00	(1,300)	(1,300)		Closed; permit surrendered.
184	do	Nevada-California Power Co.	Reservoir No. 1; July 16, 1906	[1] 1,113.09	(4)	(4)	(4)	Open.
185	do	Bishop Creek Milling Co.	Reservoir and pipeline No. 1; Dec. 17, 1907.	[1] 160.11	265	265		Closed; revoked for failure to construct.
186	do	Bishop Creek Gold Co.	Power plant No. 1; June 8, 1907	[1] 60.00	594	590		Open.
187	do	Black Rock Development Co	Conduit and power house; June 17, 1912	11.00	110	110		Do
188	do	Nevada-California Power Co.	Plants 2, 4, and 5, and transmission lines; July 31, 1912.	1,617.28	7,650	3,734	18,000	Do.
189	do	do	Conduit, plant 3; Aug. 8, 1912	235.25	2,660	2,074		Do.
190	do	Bishop Creek Milling Co.	Conduit and power house; Dec. 15, 1909	(3)	10	(10)	10	Do.
191	do	Minor, T. H.	Dam and conduit; Oct. 7, 1910	(3)	190	180		Closed; revoked for failure to construct.
192	do	Parry, Arthur	Conduit and power house; Jan. 29, 1912	(3)	(10)	(10)		Closed; revoked for failure to construct. Permittee has left the country.
193	do	Bishop Creek Milling Co.	Conduit; June 1, 1912	(3)	290	145		Open.
194	do	Buckeye Mining & Smelting Co.	Conduit and power house; Nov. 12, 1909	(3)	(4)	(4)		Closed; land eliminated from forest Feb. 23, 1911.
195	do	Casa Diablo Gold Mining Co.	Power house and transmission line; Feb. 20, 1907.	(3)	(4)	(4)	(4)	Open.
196	Kern	Jacoby, James	Power station and conduit; Nov. 9, 1905	30.00	(73)	(4)		Closed; permit surrendered. Superseded by permit to Four Metals Mining Co.
197	do	Kern River Co.	Power house and transmission line; Mar. 19, 1904.	[1] 620.00	9,000	(4)	13,500	Open.
198	do	Grant & Anton	Conduit and power house; Apr. 11, 1906	[1] 100.00	(320)	(4)		Open, but suspended.
199	do	Southern California Edison Co.	Conduit and power house, plant F; May 1, 1906 (4).	39,455.66	11,200	9,730	26,670	Open.

200	.....do.....	.....do.....	Plants G, H, and I; May 1, 1906 (4).....	.....	20,410	14,670	.....	Closed: forfeited on account nonconstruction.
201	.....do.....	Four Metals Mining Co.....	Conduit and power house; Jan. 24, 1908....	[1] 60.00	(186)	(4)	.....	Closed; revoked for failure to construct. Company is bankrupt.
202	.....do.....	Southern California Edison Co.	Reservoirs, conduits, and power houses; Apr. 29, 1911.	1,483.50	32,720	23,900	.....	Open.
203	.....do.....	City of Los Angeles.....	Pipeline; July 23, 1907.....	(3)	(4)	(4)	(4)	Do.
204	Lassen.....	Henshaw, Park.....	Dam and conduit; July 10, 1906.....	[1] 75.00	6,150	(450)	.....	Closed; revoked for failure to construct.
205	.....do.....	Shasta Power Co.....	Conduit; Aug. 31, 1905.....	[1] 75.00	(30)	(30)	.....	Closed; rights transferred to the Sacramento Valley Power Co.
206	.....do.....	Tehama County Power & Construction Co.	Flume, ditch, pipeline, and power house; Jan. 12, 1906.	[1] 60.00	(7,640)	(6,000)	.....	Closed; revoked for failure to construct.
207	.....do.....	Gates, H. V.....	Reservoir and conduit; Oct. 24, 1906.....	50.00	(100,000)	(10,000)	.....	Closed; transferred to Mount Shasta Power Corporation.
208	.....do.....	Gillomvater, J. H.....	Ditch and pipeline; Aug. 11, 1909.....	472.90	6,400	4,729	.....	Closed; failure to begin construction.
209	.....do.....	Sierra Electric Power Co....	Conduit and power house; Jan. 23, 1911....	540.30	6,480	5,403	.....	Closed; rights transferred to the Sierra Electric Power Co.
210	.....do.....	Galloway, J. D.....	Conduit; Mar. 6, 1911.....	162.00	7,860	1,620	.....	Closed; failure to file final application. Transferred to Oro Electric Corporation.
211	.....do.....	Mount Shasta Power Corporation.	Conduit; Sept. 28, 1912.....	1,239.30	113,179	12,393	.....	Open.
212	Mono.....	Nevada Mines Power Co....	(?).....	[1] 40.00	9,000	5,400	.....	Closed; revoked for failure to construct.
213	.....do.....	.....do.....	(?).....	[1] 40.00				
214	.....do.....	California-Nevada Electric Power Co.	Reservoir, conduit, and power house; Oct. 8, 1907.	[1] 2,280.00	(9,000)	5,650	.....	Closed; rights transferred to Truckee River General Electric Co.
215	.....do.....	California-Nevada Electric Power Co. (preliminary).	Conduit and power house; Nov. 27, 1911...	(3)	3,250	2,760	.....	Closed; failure to file final application.
216	.....do.....	Ray, N. C.....	Reservoir, conduits, and power house.....	380.30	4,030	3,803	.....	Open.
217	.....do.....	Pacific Power Co.....	Reservoir and conduit; June 7, 1912.....	48.60	996	108	(?)	Do.
218	.....do.....	Crystal Lake Gold Mining Co	Reservoir and power line; Jan. 12, 1907....	(3)	176	128	(?)	Do.
219	.....do.....	Standard Consolidated Mining Co.	Reservoir and telephone line; Nov. 22, 1904	(3)	(360)	(4)	(?)	Do.
220	.....do.....	Tonawah Gold Mining Co...	Conduit and power house; July 31, 1912....	(3)	99	(4)	99	Open.
221	Plumas.....	Goodhue, G. H.....	Conduit; July 6, 1908.....	[1] 20.00	200	120	.....	Closed; revoked for failure to begin construction.
222	.....do.....	Great Western Power Co....	Conduit, power house, and transmission line No. 2; Mar. 18, 1911.	411.60	25,800	4,116	.....	Open.
223	.....do.....	.....do.....	Conduit, power house, and transmission line No. 3; Mar. 18, 1911.	946.70	41,700	9,467	.....	Do.
224	.....do.....	.....do.....	Conduit, power house, and transmission line No. 4; Mar. 18, 1911.	1,245.00	29,700	12,450	.....	Do.
225	.....do.....	.....do.....	Conduit, power house, and transmission line No. 5; Mar. 18, 1911.	1,392.00	38,160	13,929	.....	Do.

[1] Not based on rental capacity in horsepower. [2] No rental charges. [3] Reservoir only; no data. [4] No data.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE—continued.

Power capacities and total receipts, June 30, 1913—Continued.

DISTRICT 5—Continued.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
226	Plumas	Great Western Power Co.	Reservoir, conduit, power house, and transmission line; Mar. 24, 1911.	$57.80	2,180	578	4,000	Open.
227	do	Oro Electric Corporation	Conduits, power house, and transmission line; Apr. 7, 1911.	399.20	18,000	3,635		Do.
228	do	Indian Valley Light & Power Co.	Conduit and power house; June 10, 1912	70.95	1,420	1,419		Open; preliminary.
229	do	P. B. Steifer Mining Co.	Conduit and transmission line; Apr. 24, 1911.	(2)	722	(30)	360	Open.
230	do	Oro Electric Corporation	Conduit, power house, and transmission Oct. 27, 1911.	(2)	550	(2)	470	Do.
231	Santa Barbara	Silver Falls Oil Co.	Reservoir, conduit, and power house; July 12, 1911.	23.50	236	235(?)		Closed; failure to file final application.
232	do	Swepe Light & Power Co.	Reservoir, conduit, and power house; Apr. 4, 1913.	32.00	321	320		Open.
233	Sequoia	Globe Light & Power Co.	Flume, reservoir, power house, etc.; Mar. 5, 1903.	[1] 234.00	1,280	(4)	2,660	Closed; transferred to Mount Whitney Power Co.
234	do	do	Dam, reservoir, and conduit; Mar. 5, 1903					
235	do	Kings River Power Co.	Conduits, reservoirs, and power house; Aug. 6, 1908.	[1] 1,180.00	24,000	2,200		Closed; revoked for failure to construct.
236	do	Wishon, A. G.	Conduit; May 29, 1906	[1] 600.00	1,600	(4)		Closed; permit surrendered.
237	do	do	Conduit and power house; Jan. 19, 1905	[1] 500.00	4,900	(4)		Closed; transferred to San Joaquin Light & Power Corporation.
238	do	Mount Whitney Power & Electric Co.	Reservoirs and conduits (Tule River); Mar. 5, 1903.	[1] 920.79	1,600	1,290	2,660	Open.
239	do	do	Reservoirs, conduits, and power houses (Park); Feb. 7, 1907.	(2)	4,540	3,312		Do.
240	do	do	Conduit and power house; Dec. 21, 1911	39.50	472	395		Do.
241	do	do	Conduit; Sept. 20, 1912 (Kaweoh No. 2)	162.90	716	162		Do.
242	do	San Joaquin Light & Power Corporation.	Conduits, power house, and transmission line; Dec. 26, 1911.	280.30	1,989	1,916		Do.
243	Shasta	Trinity Gold Mining & Reduction Co.	Conduit; Apr. 12, 1910	(2)	180	60	(?)	Closed; superseded by Interior Department right of way.
244	do	do	Conduit	(?)	319	97	533	Open.
245	do	Trinity Bonanza King Mining Co.	Conduit, power house, and transmission line; Apr. 20, 1906.	(2)	75	(4)	(?)	Do.

246	Sierra	Chiquita Mining & Power Co.	Conduit and power house; Feb. 18, 1908	47.50	2,370	2,300		Closed; permit surrendered.
247	do	Eastwood, John S	Power house; Oct. 8, 1906 (?), temporary	(2)	200	(4)		Closed; revoked for failure to execute new agreement.
248	do	do	Reservoirs, conduits, and power houses; Aug. 15, 1909 (?).	(2)	48,000	(4)		Closed; superseded by permit to Pacific Light & Power Co.
249	do	Oakley, H. C., et al	Dam and reservoir; Dec. 1, 1906	[1] 125.00				
250	do	do	Diversion dam, water conduits, and power-house sites; Nov. 1, 1906.	[1] 550.00	12,000	(4)		Closed; revoked for failure to construct.
251	do	do	Conduit and telephone line; Dec. 1, 1906	(2)				
252	do	Sierra Park Power Co	Dam, conduit, and power house site; Dec. 2, 1908.	[1] 25.00	7,320	(6,462)		Closed; surrender of permit.
253	do	Chiquita Mining & Power Co.	Conduits and power houses; Oct. 30, 1908	[1] 310.00	(13,800)	(13,800)		Closed; revoked for failure to begin construction.
254	do	Mammoth Power Co	Reservoir, conduit, and power house; Mar. 3, 1903.	[1] 522.00	[5] 27,100	(4)		Closed; revoked May 14, 1911.
255	do	Fresno Power Co	Conduits and power houses; July 14, 1909	724.70	7,500	7,247(?)		Closed; failure to make final application.
256	do	Pacific Light & Power Corporation.	Reservoirs, conduits, and power houses; Mar. 7, 1910.	[1] 3,008.00	(21,750)	(4)		Open.
257	do	Merced River Electric Co	Conduit and power house "B"; Apr. 19, 1911.	128.50	1,290	1,285		Closed; failure to make final application and superseded by Merced River Electric Power Co. application.
258	do	San Joaquin Light & Power Co.	Conduit; June 3, 1909 (?)	[1] 30.00	90	(90)		Open.
259	do	do	Reservoir and conduit; Jan. 7, 1910	(2)	790	(500)		Open (?).
260	do	Sierra Park Power Co	Reservoir, power house, conduit, and transmission line; Apr. 29, 1911.	532.80	7,320	5,328		Closed; revoked for failure to begin construction.
261	do	Wishon, A. G	Reservoirs, conduits, and power houses; May 3, 1904.	(2)	1,729	393		Open.
262	Stanislaus	Kuns, Henry S	Conduit and power house; Jan. 7, 1908	(2)	144	144		Closed; superseded by permit to Original Mining & Milling Co.
263	do	Big Creek Gold Mining Co	Pipeline and power house (?); Aug. 12, 1907.	75.00	2,000	2,000		Closed; revoked for failure to construct.
264	do	Stanislaus Electric Power Co.	(?) Nov. 25, 1905	30.00	20,800	17,100		Closed; surrender of permit.
265	do	do	do	30.00				Closed; surrender of permit; superseded by permit to Sierra & San Francisco Power Co.
266	do	National Pack Electric Co	(?) July 25, 1905	450.00	5,400	(4)		Closed; revoked for failure to construct.
267	do	do	(?) Aug. 24, 1905	375.00				
268	do	Tuolumne Electric Co	(?) Dec. 30, 1908	700.00	350	350		Do.
269	do	Ward, Augustus H	(?) Jan. 16, 1906	(2)	2,600	1,460		Closed; superseded by permit to Merced River Electric Co.
270	do	Merced River Electric Co	Conduit; Aug. 4, 1910	146.00	2,600	1,460		Open.
271	do	Original Mining & Milling Co.	Conduit and power house; Nov. 21, 1911	(2)	144	144	240	Do.
272	do	City of San Francisco	Reservoirs and conduits; Feb. 19, 1909	(2)	59,000	(4)		Do.

[1] Not based on rental capacity in horsepower. [2] No rental charges. [3] Noncommercial. [4] No data. [5] Included in permit to Poe Light & Power Corporation.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE—continued.

Power capacities and total receipts, June 30, 1913—Continued.

DISTRICT 5—Continued.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
273	Stanislaus	Sierra & San Francisco Power Co.	Reservoir and conduit; June 7, 1909	$1,773.87	20,800	17,100	32,000	Open.
274	do	Tuolumne Electric Co.	Dams, reservoirs, conduits, and power houses; July 25, 1905 (?).	[1] 317.66	200	200	800	Do.
275	do	do	Reservoir; Dec. 30, 1908	59.25	720	350		Closed; revoked for failure to begin construction.
276	do	Utica Gold Mining Co. & Hobart estate.	Reservoirs and conduit; Dec. 13, 1911	214.78	4,550	1,349		Open.
277	do	Yosemite Power Co.	Reservoir, conduit, power house, and transmission line, South Fork; Aug. 21, 1911.	69.00	15,500	2,953		Do.
278	Tahoe	American River Electric Co.	Reservoir; Oct. 8, 1906	249.00	(40)	(2)		Closed; revoked for failure to construct.
279	do	Middle Yuba Hydro-Electric Co.	Reservoirs, conduits, power houses, and transmission line; Nov. 12, 1910.	748.55	11,900	5,320		Closed; relinquished.
280	do	Worn, Geo. R.	Conduit; June 7, 1911	18.35	3,525	473		Open.
281	do	Northern Water & Power Co.	Reservoir; Mar. 16, 1908; refunded	452.00				Closed; not on National Forest land; not for power purposes.
282	do	Langstaff, C. W. & M. C.	Conduit, power house, and transmission line; June 3, 1911.	[4] 10.00	11	11	(25)	Open.
283	do	Douglas, W. G.	Conduit, power house, and transmission line; Jan. 26, 1912.	(2)	306	306	510	Do.
284	do	The Viking Mining Association (Ltd.).	Conduit; June 17, 1912	(2)	50	35	60	Do.
285	do	Telegraph Mining Co.	Conduit and power house; Sept. 7, 1911	(2)	452	452		Do.
286	Trinity	Trinity Dredging Co.	Conduit and power house; June 30, 1911	(2)	670	400	400	Do.

DISTRICT 6.

287	Chelan	Lucerne & Aurelia Crown	Conduit; Aug. 26, 1908	[1] $100.00	75	55	25	Open.
288	do	Lindsley & Barks	Reservoir and conduit; Jan. 2, 1913	(2)	90	47		Do.
289	Chugach	Beatson Copper Co.	Dam and conduits; Oct. 24, 1911	(2)	50	30		Do.
290	Columbia	St. H. O. M. & P. Co.	Reservoir; Sept. 25, 1906	60.00	(700)	(7)		Closed; revoked for failure to construct; abandoned.

291	.....do.....	Coe, Henry Waldo.....	Dam and conduit; Oct. 6, 1906.....	60.00	(700)	(?)	.....	Closed; revoked for failure to construct; construction enjoined by courts.
292	.....do.....	Sampson & Ash.....	Conduit and power house; Oct. 12, 1911...	68.25	770	770	.....	Open.
293	.....do.....	Coe, Henry Waldo.....	Reservoir and conduit; May 31, 1912.....	104.00	2,490	1,040	.....	Do.
294	Crater.....	Gardner & Pelton.....	Power house; Mar. 12, 1909.....	8.50	15	(?)	.....	Closed; permit surrendered.
295	.....do.....	City of Ashland.....	Conduit; Sept. 5, 1908.....	(2)	120	40	270	Open.
296	Minam.....	Oregon Electric Co.....	Conduit; Aug. 17, 1908.....	.....	(3,300)	(?)	.....	Closed; revoked for failure to pay rental charges.
297	.....do.....	Young, Goodwin A.....	Conduit and power house; Aug. 29, 1906...	10	(?)	(?)	.....	Closed; water right sold.
298	.....do.....	Grande Ronde Electric Co..	Conduit; June 20, 1906.....	[1] 60.00	300	39	.....	Closed; superseded by permit to E. O. L. & P. Co.
299	.....do.....	Grande Ronde Water Co....	Dams, reservoirs, conduits, and power houses; Oct. 22, 1912.	111.00	1,240	1,175	.....	Open.
300	.....do.....	.....do.....	Conduit; Sept. 1, 1908.....	[1] 50.00	1,240	1,175	.....	Closed; superse[illegible]
301	.....do.....	Eastern Oregon Light & Power Co.	Dam and conduit (Cove plant); Mar. 19, 1910.	149.98	300	39	400	Open.
302	.....do.....	Eagle River Electric Power Co.	Conduit and transmission line; Feb. 6, 1912.	22.00	675	132	1,000	Do.
303	.....do.....	.....do.....	Canal; Aug. 29, 1906.....	(2)	675	132	.....	Closed; superseded by another permit to same company.
304	Olympic.....	Olympic R. & P. Co.....	Conduit; Jan. 12, 1912.....	65.00	920	650	.....	Open.
305	.....do.....	Deckman, Louis.....	Dam and conduit; Oct. 26, 1912.....	(2)	4.5	1.5	8.5	Do.
306	Oregon.....	Mount Hood Ry. & Power Co.	Conduit; Sept. 4, 1907.....	[1] 25.00	(6,000)	(?)	(?)	Do.
307	.....do.....	Southern Pacific Co.....	Dams, conduits, and power house; Nov. 4, 1907.	[1] 337.94	15,880	15,280	.....	Closed; superseded by permit to Portland Ry. L. & P. Co.
308	.....do.....	Mount Hood Ry. & Power Co.	Reservoir; Nov. 30, 1910.....	610.52	4,110	4,070	.....	Closed; failure to file final application.
309	.....do.....	Portland Ry. L. & P. Co....	Dams, reservoirs, conduits, and power house; Sept. 25, 1911.	4,272.00	22,200	21,369	.....	Open.
310	.....do.....	Crown Columbia Pulp & Paper Co.	Flume; Jan. 22, 1908.....	30.00	135	75	1,750	Do.
311	Paulina.....	Winnard, N. E.....	Reservoir; Jan. 27, 1912.....	4.30	120	43	.....	Do.
312	Rainier.....	Miller, Albert.....	Reservoir and conduit; Apr. 1, 1905.....	[1] 30.00	5	3	5	Open; amended now.[2]
313	.....do.....	Valley Development Co.....	Reservoir, conduit, and power house; Sept. 12, 1908.	[1] 2,212.00	22,000	(?)	.....	Open.
314	.....do.....	.....do.....	Conduit and power house; Apr. 25, 1910...	(4)	(?)	(Small) (?)	67	Open; temporary for construction purposes.
315	Santiam.....	Southern Pacific Co.....	Dam, conduit, and power house; Mar. 2, 1907.	[1] 76.00	23,090	(?)	.....	Closed; permit surrendered.
316	.....do.....	Electric Mining & Smelting Co.	Conduit; Nov. 1, 1907.....	20.00	(?)	(Small) (?)	.....	Do.
317	.....do.....	Mackay, Walter.....	Reservoir, conduit, power house, and forebay; Feb. 12, 1912.	604.00	7,340	6,040	.....	Open.
318	.....do.....	McKenzie Valley Irrigation & Power Co.	Reservoir, conduit, and power house; May 22, 1912.	1,110.00	12,270	11,190	.....	Do.

[1] Not based on rental capacity in horsepower. [2] No rental charges. [3] No data. [4] Charge discontinued.

WATER-POWER PERMITS GRANTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE—continued.

Power capacities and total receipts, June 30, 1913—Continued.

DISTRICT 6—Continued.

	Forest.	Permittee.	Use and date of priority.	Total receipts.	Power capacity—Horsepower.			Open or closed: If closed, reason.
					Total.	Rental.	Installed.	
319	Siskiyou	Smith River Electric Co.	Conduit and power house; Sept. 24, 1910	$76.80	918	768		Closed; failure to file final application.
320	do	Owens, James H.	Dams, conduits, power house (South Fork Smith River); Jan. 11, 1912.	153.00	1,642	1,530		Do.
321	do	do	Dams, conduits, and power house (Smith River); Jan. 11, 1912.	93.50	1,087	935		Do.
322	do	Anderson, M. J.	Dam, reservoir, conduit, and power house; Apr. 18, 1912.	119.00	3,460	1,193		Open.
323	Siuslaw	Lindsey, James	Reservoir, dam, and conduits; July 5, 1911.	121.00	1,450	1,210		Open.
324	Snoqualmie	Washington Ry. & Electric Co.	Dams and conduits; May 24, 1911	3,789.50	22,965	22,374		Do.
325	Tongass	Alaska Industrial Co.	Conduit; Dec. 9, 1905	[1] 35.00	(?)	(?)	30	Open; amended now.[2]
326	do	Chiragoff Power Co.	Power house; Jan. 1, 1910	10.00				Do.
327	Umpqua	Southern Pacific Co.	Dam, conduit, and power house; Nov. 8, 1906.	75.00	9,300	(?)		Closed; permit surrendered.
328	do	West Coast Mines Co. (successor to Oregon Securities Co.).	Dam, power house, and transmission line; July 16, 1908.	[1] 42.00				Open; amended now.[2]
329	Washington	T. C. T. & S. Co.	Reservoirs, conduits, and power houses; Jan. 23, 1909.	219.00	15,000	(?)		Closed; revoked for failure to construct.
330	do	Chancellor, G. & M. Co.	Flume; Apr. 26, 1906	[1] 175.00	150	75	250	Open.
331	do	Superior Portland Cement Co.	Conduits and diversion dams; Mar. 16, 1908.	[1] 524.00	2,373	(750)	2,000	Do.
332	do	Skagit Power Co.	Dam and conduits (Cascade); Mar. 31, 1911.	106.75	4,536	640		Do.
333	do	do	Dams, conduits, and power houses (Skagit); Mar. 31, 1911.	1,732.50	24,100	20,600		Do.
334	Wenaha	Columbia Power Co.	Conduit; Sept. 10, 1906	10.00	(165)	(?)		Closed; revoked for failure to construct.
335	do	Umatilla Electric Power Co.	Conduit and power house; Oct. 18, 1905	[1] 58.00	310	(?)	(?)	Closed; superseded by another permit to same company.
336	do	Oregon & Washington Light & Power Co.	Conduit; Jan. 27, 1908	[1] 90.00	2,225	1,340		Do.
337	do	Spokane, W. W. & W. Ry.	Conduit; Mar. 2, 1910	15.40	1,500	154		Closed; revoked for failure to begin construction.

338	.....do.....	Umatilla E. P. Co.....	Power plant; Nov. 20, 1911.....	23.25	310	310	.....	Closed; failure to file final application.
339	.....do.....	Oregon-Washington L. & P. Co.	Conduit; Dec. 23, 1911.....	85.50	2,225	1,340	.....	Do.
340	Wenatchee.....	Great Northern Ry.....	Dam, conduit, and power house; Mar. 22, 1907.	[1] 560.59	4,400	(2,000)	8,000	Open.
341	.....do.....	.....do.....	Conduits and power house; Jan. 5, 1909...	[1] 40.00	150	132	250	Closed; superseded by another permit.
342	.....do.....	.....do.....	Conduits and power house; Mar. 16, 1912...	.....	150	132	250	Open.
343	.....do.....	Wenatchee Valley Gas & Electric Co.	Dams, reservoirs, and conduits; Nov. 15, 1909.	285.50	5,666	2,284	.....	Closed.
344	.....do.....	Kittitas Ry. & Power Co....	Dam, conduit, and power house; July 24, 1912.	90.00	900	900	.....	Open.
345	.....do.....	C. M. & St. P. Ry. Co.....	Dam, conduit, and power house; Apr. 16, 1913.	(?)	(?)	(?)	.....	Closed; on railroad land.
346	Whitman.....	Radium Electric Co.....	Dam, conduit, and power house; Sept. 24, 1906.	.....	(?)	(?)	.....	Closed; revoked for failure to pay rental charges.
347	.....do.....	Eastern Oregon L. & P. Co..	Conduit and transmission line; Aug. 24, 1910.	245.60	618	225	1,067	Open.
348	.....do.....	.....do.....	Reservoir, conduit, power house, and transmission line; Nov. 8, 1909.	1,233.68	670	600	1,300	Do.
			DISTRICT 7.					
349	Arkansas.....	Garland Power & Development Co.	Reservoir, conduit, and power house; Feb. 24, 1913.	$181.00	14,050	1,816	.....	Open.

[1] Not based on rental capacity in horsepower.

[2] No rental charges.

Permits and grants by the Department of Agriculture, Forest Service, for transmission and telephone lines, under acts of Feb. 15, 1901, and Mar. 4, 1911—Lengths of lines and total receipts, June 30, 1913.

DISTRICT 1.

Forest.	Permittee.	Use and date of priority.	Total receipts.	Total.	Length in miles— Within forest boundaries.	Length in miles— On forest lands.	Open or closed: If closed, reason.
Coeur d'Alene	Washington Water Power Co	Transmission and telephone line, Feb. 8, 1907.	$70.00	7.26	2.26	1.25(?)	Open.
Deerlodge	Madison River Power Co	Transmission line, Nov. 21, 1908.	162.50	(?)	6.5	6.5	Do.
Do	Great Falls Power & Townsite Co.[1]	Transmission line	205.20	(?)	(?)	10.26	Closed; canceled June 1, 1911, and new permit issued for same line to its successor, Great Falls Power Co.
Do	Butte Electric Power Co	Transmission line, Nov. 21, 1908	25.00	21.01	.25	.25	Open.
Do	Missouri River Power Co	Transmission line, Nov. 13, 1900	150.00	15.4	(?)	10.0	Do.
Do	Great Falls Power Co.[1]	Transmission line, May 15, 1911	68.40	(?)	8.64	8.64	Closed; permit succeeded by grant under act of Mar. 4, 1911.
Do	do.[1]	do	68.40	(?)	8.64	8.64	Do.
Do	do.[1]	do.[2]	100.00	(?)	20.0	20.0	Open.
Helena	Great Falls Power & Townsite Co.[1]	do	240.00	(?)	15.69	15.69	Closed; canceled June 1, 1911, and new permit issued for same line to its successor, the Great Falls Power Co.
Do	Great Falls Power Co.[1]	do	124.00	(?)	15.69	15.69	Closed; terminated at issuance of new permit.
Do	do.[1]	do	124.21	(?)	15.69	15.69	Do.
Do	do.[1]	do.[2]	160.00	(?)	31.92	31.92	Open.
Do	Capital City Power Co	Transmission line, May 28, 1908	25.00	(?)	.22	.22	Closed; use of rights of way no longer desired.
Do	Keating Gold Mining Co	Transmission line	30.00	23.35	1.58	1.58	Open.
Do	Michigan & Montana Development Co.	do	20.00	5.32	1.18	1.18	Do.
Jefferson	Ruby Gulch Mining Co	Transmission lines, May 25, 1909	125.00	7.63	4.0	4.0	Open; ½ mile eliminated from forest Feb. 27, 1912.
Lolo	Iron Mountain Tunnel Co	Transmission line, Jan. 27, 1913	38.00	7.6	7.6	7.6	Open.
Missoula	Anaconda Copper Mining Co	Transmission line, May 8, 1906	13.45	13.0	2.13	2.13	Do.
Do	do	Transmission line, Sept. 11, 1912	6.60	1.85	1.85	.64	Do.
Do	do.[3]	Transmission line, Mar. 5, 1910	10.30	6.65	4.14	2.06	Do.
Nezperce	Grangeville Electric Light & Power Co.	Transmission line, July 22, 1908	10.60	10.0	.53	.53	Closed; new permit issued to succeed this and one other.
		Total	1,776.87				

DISTRICT 2.

Black Hills	Consolidated Power & Light Co.	Transmission line, Sept. 21, 1910.	$32.50	(?)	3.7	2.0	Open.
Do	Dakota Power Co.	Transmission line, Oct. 28, 1911.	(4)	(?)	3.35	2.75	Closed; new permit granted to cover entire power project.
Do	Consolidated Power & Light Co.	Transmission line, Mar. 11, 1912.	25.37	(?)	5.62	2.94	Open.
Do	Homestake Mining Co.	Transmission line, June 6, 1911 [2].	25.00	(?)	10.10	4.90	Do.
Do	Consolidated Power & Light Co.	Transmission line, Feb. 5, 1913.	5.00	32.7	1.13	.79	Do.
Colorado	The Central Colorado Power Co.	Transmission line, Albion, Sept. 8, 1910.	61.67	7.4	7.4	3.7	Do.
Do	do	Transmission lines, Ward & Ruby, July 1, 1911.	28.03	4.7	2.06	2.06	Do.
Durango	Durango Gas & Electric Co.	Transmission line, May 29, 1909.	42.92	(17)	1.8	1.8	Do.
Do	San Juan Water & Power Co.	Transmission line, June 26, 1909.	12.50	2.5	2.5	1.25	Do.
Do	Animas Power & Water Co.	Transmission line, Aug. 4, 1907.	.....	(?)	5.75	5.75	Closed; abandoned.
Holy Cross	Central Colorado Power Co.	Transmission line, Dec. 7, 1909.	.....	151	88.0	73.0	Open; in litigation.
Do	Glenwood Light & Water Co.	Transmission line, May 22, 1911.	49.17	(20)	3.0	3.0	Open.
Leadville	Summit County Power Co.	Transmission line, Sept. 23, 1907.	106.25	(?)	17.4	10.0	Closed; succeeded by permit covering entire project.
Do	Central Colorado Power Co.	Transmission line, Dec. 7, 1909, and Dillon substation, Feb. 19, 1910.	.....	(5)	(5)	.....	
Do	do	Transmission line, Semper Idem, Aug. 20, 1910.	10.00	(?)	1.0	1.0	Closed; no longer desired by company.
Do	Summit County Power Co.	Transmission line, Feb. 3, 1911.	11.02	(?)	1.16	.95	Closed; succeeded by permit covering entire project.
Do	Central Colorado Power Co.	Transmission line, Nov. 1, 1912. (Boston Distribution Line).	10.00	2.04	2.04	2.00	Open.
Do	Colorado Power Co.	Transmission line, June 9, 1913.	45.00	12.2	8.3	8.3	Do.
Montezuma	Mount Wilson Gold & Silver Mining Co.	Transmission line, Nov 26, 1907.	(4)	(?)	4.0	4.0	Do.
Pike	Central Colorado Power Co.	Transmission line, Dec. 7, 1909.	.....	(5)	(5)	.....	
Do	do	Transmission line, Monarch, Apr. 18, 1911.	16.06	3.9	3.9	1.2	Do.
Do	do	Transmission line, A. K. R., Aug. 21, 1911.	3.88	.5	.5	.33	Do.
Do	do	Transmission line, Seabird extension, Aug. 5, 1912.	6.52	1.08	1.08	.83	Do.
Do	do	Transmission line, Golden Flint, Oct. 4, 1912.	6.23	1.81	1.81	1.02	Do.
Shoshone	Winona Mining & Milling Co.	Transmission line, July 19, 1911.	(4)	(?)	(?)	.57	Do.
Sopris	Central Colorado Power Co.	Transmission line, Dec. 7, 1909.	.....	(5)	(5)	.....	
Do	Colorado Yule Marble Co.	Transmission line, Quarry, July 2, 1907.	(4)	4.0	2.5	.95	Do.
Uncompahgre	Ridgway Electric Co.	Transmission line, Sept. 15, 1911.	10.71	(?)	(?)	.48	Do.

[1] One permit for two forests. [2] Under act of Mar. 4, 1911. [3] Permit granted by Interior Department. [4] No rental charges. [5] See Holy Cross.

Permits and grants by the Department of Agriculture, Forest Service, for transmission and telephone lines, under acts of Feb. 15, 1901, and Mar. 4, 1911—Lengths of lines and total receipts, June 30, 1913—Continued.

DISTRICT 3.

Forest.	Permittee.	Use and date of priority.	Total receipts.	Total.	Length in miles— Within forest boundaries.	Length in miles— On forest lands.	Open or closed: If closed, reason.
Crook	Calumet & Arizona Mining Co.	Transmission line, Nov. 23, 1912.	$25.00	(9)	4.57	4.57	Open.
Prescott	Arizona Power Co.	Transmission line, Prescott, July 28, 1908.	1,000.00	53.25	36.05	36.05	Do.
Do	do	Transmission line, Huron-Jerome, Aug. 25, 1908.	400.00	23.5	15.26	15.26	Do.
Do	do	Transmission line, Verde River, Feb. 16, 1911.	187.06	38.1	[1] 13.66	13.66	Do.

DISTRICT 4.

Forest.	Permittee.	Use and date of priority.	Total receipts.	Total.	Length in miles— Within forest boundaries.	Length in miles— On forest lands.	Open or closed: If closed, reason.
Boise	Atlanta Mines Co.	Transmission line, Apr. 28, 1906.	$8.00	4.0	4.0	0.5	Open.
Fillmore	Beaver River Power Co.	Transmission line, Oct. 16, 1912.	95.00	(70)	18.61	18.61	Do.
Nebo	Union Chief	do	7.05	(10)	.34	.25	Do.
Payette	Boston & Idaho Gold Dredging Co.	Transmission line, Dec. 22, 1908.	36.75	(20)	2.5	2.1	Do.
Pocatello	Idaho Light & Power Co.	Transmission line, Feb. 20, 1908.	210.00	12	7.0	7.0	Closed; transferred to D. L. Evans, successor to the company.
Sawtooth	Independence Mining Co. (Ltd.).	Transmission line, July 1, 1912.	9.10	(3)	1.5	1.5	Open.
Toiyabe	Nevada-California Power Co.	Transmission line, May 3, 1909.	88.55	(40)	4.78	4.78	Do.

DISTRICT 5.

Forest.	Permittee.	Use and date of priority.	Total receipts.	Total.	Length in miles— Within forest boundaries.	Length in miles— On forest lands.	Open or closed: If closed, reason.
Angeles	Arrowhead Reservoir & Power Co.	Transmission line, Nov. 24, 1905.	$150.00	22.25	22.25	22.25(?)	Closed; lines abandoned or covered by one permit issued April 9 1912.
Do	do	Transmission line, Oct. 13, 1908.	(2)	1.0	1.0	1.0	Do.
Do	do	Transmission line, Sept. 21, 1909.	(2)	1.08	1.08	1.08	Do.
Do	do	Transmission line, Feb. 5, 1912.	(2)	.25	.25	.25	Do.
Do	Electric Power Co.	Transmission line, Mar. 24, 1910.	120.00	6.74	6.0	6.0	Open.
Do	do	Transmission line, Oct. 12, 1911.	125.56	11.5	11.5	11.5	Do.
Do	Southern Sierras Power Co.	Transmission line, Jan. 25, 1912.	84.60	238.0	16.1	9.0	Do.
Do	Arrowhead Res. & Power Co.	Transmission line, Feb. 5, 1912.	19.20	14.3	14.3	1.92	Do.
Do	Fontana Union Water Co.	Transmission line, Nov. 12, 1912.	13.25	3.3	3.3	2.65	Do.

Do	Pacific Light & Power Co	Transmission line, Nov. 18, 1912.	(2)	241.0	4.02	.19	Do.
Eldorado	Invincible Mines Consolidated	Transmission line, May 11, 1911	36.19	3.13	3.13	2.96	Do.
Inyo	Nevada-California Power Co	Transmission line, Mar. 13 1905.	15.00	43.53	.5	.5	Closed; included in a later permit.
Do	do	Transmission line, July 28, 1908.	450.00	26.75	26.75	26.75	Closed; revoked Dec. 4 1912, included in permit for power project.
Do	do	Transmission line, Feb. 27, 1912.	30.00	(?)	3.14	3.0	Open.
Do	Southern Sierras Power Co	Transmission line, Nov. 26, 1912.	12.50	2.38	2.85	2.5	Do.
Do	Nevada-California Power Co	Transmission line, Jan. 6, 1913	(2)	2.35	2.12	2.12	Do.
Do	do	Transmission line, Jan. 27, 1913.	(2)	3.75	2.7	2.7	Do.
Kern	Southern California Edison Co	Transmission line, May 2, 1905	(?)	1.44	1.42	1.42	Do.
Do	Southern Sierras Power Co	Transmission line, Mar. 25, 1912.	207.62	238.0	37.3	24.25	Do.
Do	Mammoth Mountain Mining Co	Transmission line, Feb. 5, 1910	10.00	1.0	.32	.32	Do.
Do	Los Angeles, City of	Transmission line, Apr. 24, 1913 [3]	(2)	16.64	16.64	16.64	Do.
Do	do	Telephone line, Apr. 24, 1913 [3]	(2)	2.25	2.25	2.25	Do.
Klamath	Siskiyou Elec. Power & Light Co.	Transmission line, Oct. 5, 1911	56.47	15.95	15.95	9.48	Closed; transferred to California-Oregon Power Co.
Do	California-Oregon Power Co	Transmission line, Aug. 26, 1912.	47.40	15.95	15.95	9.48	Open.
Modoc	Surprise Valley Light & Power Co.	Transmission line, Aug. 2, 1906.	180.00	17.0	6.0	6.0	Do.
Mono	Pacific Power Co	Transmission line, June 14, 1911.	12.45	2.47	2.47	.76	Do.
Plumas	Ore Electric Corporation	Transmission line, Feb. 11, 1913.	(2)	36.0	36.0	22.0	Do.
Santa Barbara	Kern River Co	Transmission line, June 29, 1904.	360.00	28.67	28.67	12.0	Do.
Do	Edison Electric Co	Transmission line and switch station, July 13, 1906.	1,085.00	30.0	30.0	2.25	Closed; transferred to Southern California Edison Co.
Do	Southern California Edison Co	Transmission line, Sept. 30, 1910.	157.50	14.0	14.0	8.25	Open.
Do	Los Angeles, City of	Transmission line, Aug. 15, 1912 [3]	(2)	24.0	24.0	15.0	Do.
Do	Pacific Light & Power Co	Transmission line, Nov. 18, 1912.	(2)	241.0	26.45	21.96	Do.
Do	Southern California Edison Co	Transmission line, Jan. 16, 1913.	(2)	30.0	30.0	20.25	Do.
Do	Los Angeles, City of	Telephone line, Apr. 25, 1913 [3]	(2)	19.56	19.56	19.56	Do.
Sequoia	San Joaquin Light & Power Co	Transmission line, June 2, 1911	27.15	3.5	3.5	3.5	Closed; included in a later permit.
Shasta	Alta Bert Gold Dredging Co	Transmission line, Oct. 21, 1911.	23.50	4.5	3.81	2.35	Open.
Sierra	Eastwood, John S	Transmission line, Aug. 15, 1909.	370.00	37.0	37.0	37.0	Do.
Do	Pacific Light & Power Corporation.	Transmission line, Nov. 19, 1911.	110.00	25.6	25.6	22.0	Do.
Do	San Joaquin Light & Power Co	Transmission line, Dec. 27, 1909.	10.00	1.0	1.0	1.0	Do.
Do	Pacific Light & Power Corporation.	Transmission line, Nov. 18, 1912.	(2)	241.0	49.5	39.0	Do.
Do	San Joaquin Light & Power Corporation.	Transmission line, Dec. 17, 1912.	(2)	.27	.27	.27	Do.
Stanislaus	Hersey, R. W	Transmission line, Jan. 11, 1908	32.50	4.0	4.0	4.0	Closed; superseded by another permit.
Do	Tuolumne Electric Co	Transmission line, May 3, 1906	7.00	1.0	1.0	1.0	Open.
Do	Tuolumne Transmission Co	Transmission line, Aug. 10, 1910.	90.00	6.0	6.0	6.0	Do.
Do	do	Transmission line, Oct. 17, 1911	10.50	.25	.25	.25	Do.
Do	Sierra & San Francisco Power Co	Transmission line, Feb. 7, 1913	(1)	12.26	12.26	5.24	Do.
Tahoe	Sierra Electric Co	Transmission line, Feb. 28, 1908	22.50	4.5	4.5	4.5	Closed.
Do	Middle Yuba Hydro Electric Co	Transmission line, Oct. 16, 1909	95.00	4.75	4.75	4.75	Open.
Do	do	Transmission line, Sept. 5, 1911	11.30	1.53	1.53	.8	Do.
Do	do	Transmission line, Dec. 4, 1911	10.00	.74	.74	.1	Do.
Do	Croesus Gold Mining & Milling Co.	Transmission line, May 9, 1908	10.00	1.5	1.5	1.5	Do.
Do	Middle Yuba Hydro Electric Co	Transmission line, Apr. 17, 1912	7.05	.73	.52	.21	Do.
Do	do	Transmission line, Nov. 12, 1910.	8.00	1.64	1.64	1.60	Do.

[1] Includes 8.12 miles on Prescott and 5.54 miles on Tonto.

[2] No rental charges.

[3] Under act of Mar. 4, 1911.

Permits and grants by the Department of Agriculture, Forest Service, for transmission and telephone lines, under acts of Feb. 15, 1901, and Mar. 4, 1911—Lengths of lines and total receipts, June 30, 1913—Continued.

DISTRICT 5—Continued.

Forest.	Permittee.	Use and date of priority.	Total receipts.	Total.	Length in miles— Within forest boundaries.	Length in miles— On forest lands.	Open or closed: If closed, reason.
Tahoe	Pacific Gas & Electric Co.	Transmission line, Drum Cordelia, Nov. 4, 1912.	$5.68	1.65	1.65	0.85	Open.
Do	do	Transmission line, Alta-Grass Valley, Nov. 4, 1912.	22.45	1.47	1.47	1.31	Do.
Do	do	Transmission line, Alaska Mine, Nov. 4, 1912.	17.10	6.00	4.34	.90	Do.
Do	do	Transmission line, Deer Creek, Nov. 11, 1912.	6.70	1.76	1.76	1.18	Do.
Trinity	North Mountain Power Co.	Transmission line, June 28, 1904.	270.00	28.5	27.0	27.0	Closed; transferred to Humboldt Gas & Electric Co.
Do	The Globe Mining Co.	Transmission line, Nov. 10, 1908.	(1)	5.5	2.4	.32	Open.
Do	Humboldt Gas & Electric Co.	Transmission line, Jan. 27, 1909.	540.00	28.5	27.0	27.0	Do.
Do	Globe Consolidated Mining Co.	Transmission line, Apr. 26, 1913	5.00	.6	.6	.25	Do.

DISTRICT 6.

Forest.	Permittee.	Use and date of priority.	Total receipts.	Total.	Length in miles— Within forest boundaries.	Length in miles— On forest lands.	Open or closed: If closed, reason.
Columbia	North Western Electric Co.	Transmission line, Mar. 4, 1912.	$10.00	(80)	4.2	1.4	Open.
Minam	Eagle River Electric Power Co.	Transmission line, May 15, 1908.	(1)	5.72	3.36	3.36	Closed; superseded by another permit to same company.
Tongass (?)	Chicago Power Co.	Transmission line, Jan. 1, 1910.	25.00	4.75	4.75	4.75	Open; amended.[1]
Washington	Whatcom County Railway & Light Co.	Transmission line, Sept. 12, 1910.	72.70	30	7.27	7.27	Closed; superseded by next case.
Do	Puget Sound Traction Light & Power Co.	Transmission line Nov. 11, 1912.	17.65	30	7.27	7.27	Open.
Do	G. M. Chancellor Co.	Transmission line, Nov. 24, 1905.	200.00	7	7	5.68	Do.
Do	Skagit Queen Consolidated Mining Co.	Pipe and transmission line, Oct. 24, 1908.	20.00	1	1	1	Do.
Wenatchee	Tumwater Light & Power Co.	Transmission line, July 29, 1909.	14.17	2	.92	.37	Do.
Do	Great Northern Railway Co.	Transmission line, May 22, 1908.	50	30	1.7	1.7	Do.
Do	do	Transmission line, June 23, 1910.	15	.6	.6	.6	Closed; removed from forest.
Whitman	E. O. Light & Power Co.	Transmission line, Nov. 8, 1909.	420	(?)	23	(?)	Closed; superseded by another permit
Do	Highland Gold Mines Co.	Transmission line, Nov. 22, 1911.	10	.5	.5	.5	Open.
Do	Arthur L. White	Transmission line, Nov. 21, 1912.	15	3	3	2.5	Do.

[1] No rental charges.

EXHIBIT T.

Determination of capital values of power sites, together with a possible basis for rentals.

[In dollars per horsepower.]

Assume annual gross receipts per horsepower	$100
Assume annual maintenance charges	$10
Assume annual operating expenses, including taxes, insurance, and all fixed charges, except interest and depreciation reserves	$50
Assume total investment in works, equipment, and other property, exclusive of the power site	$250
Assume interest rate on secured loans ... per cent	6
Assume current investment rates, consisting of interest on secured loans, plus additional interest on account of hazard of business plus wages of administration and superinntendence ... per cent	12
Assume that 25 per cent of capital indebtedness for works, equipment, etc. (but not for power site), will be retired by annual payments, which will include interest on amount to be retired and which will involve annual charge of	$4

(1) WHEN THE GOVERNMENT RENTAL IS A PROPORTION OF THE "ECONOMIC RENT."

Gross receipts per horsepower		$100
Annual expennditures (except interest):		
Maintenance	$10	
Operation	50	
Depreciation reserves	4	
		64
Net revenue		36
Total permissible investment equals net revenue capitalized at 12 per cent		300
Investment in works, equipment, etc		250
Permissible investment in power site equals value of site as part of a growing business		50
"Economic rent" of site, 12 per cent of $50		6
Minimum Government proportion, 6 per cent of $50, or one-half of "economic rent"		3
Permittee's profit in use of Government power site		3

(2) WHEN THE GOVERNMENT RENTAL IS A FIXED AMOUNT PER HORSEPOWER.

Gross receipts per horsepower		$100
Annual expenditures (except interest):		
Maintenance	$10	
Operation	50	
Depreciation reserves	4	
Government rental	1	
		65
Net revenue		35
Total permissible investment equals new revenue capitalized at 12 per cent		292
Investment in works, equipment, etc		250
Permissible investment in power site equals value of site as part of a going business		42
The "economic rent" of the site is 12 per cent of $42, or		5
The permittee's profit in the use of Government power site is therefore		5

(3) WHEN THE GOVERNMENT RENTAL CONSISTS OF A FIXED MINIMUM CHARGE PLUS A PROPORTION OF THE "ECONOMIC RENT."

Gross receipts per horsepower		$100.00
Annual expenditures:		
Maintenance	$10.00	
Operation	50.00	
Depreciation reserves	4.00	
Government rental	1.00	
		65.00
Net revenues		35.00
Total permissible investment equals new revenue capitalized at 12 per cent		292.00
Investment in works, equipment, etc		250.00
Total permissible investment in power site equals value of site as part of a going business		42.00
"Economic rent" of power site, 12 per cent of $42		5.00
Minimum Government proportion, 6 per cent of $42, or one-half of "economic rent"		2.50
Permittee's profit on use of Government power site		2.50
Total return to Government, $2.50+$1=		3.50

EXHIBIT U.

List of approved easements in national forests.

DISTRICT 1.—IDAHO, MONTANA, SOUTH DAKOTA, WASHINGTON.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Beaverhead	N. E. Knight	Ditch	Mar. 3, 1891	June 1, 1909	Mar. 23, 1910	
Bitterroot	Sam'l P. Kerr	Reservoir	do	Aug. 7, 1905	June 22, 1906	No.
Do	Bitterroot Valley Irrigation Co	do	do	June 11, 1912	Mar. 18, 1913	
Blackfeet	C. M. & P. S. Ry. Co	Railroad	Mar. 3, 1875	Apr. 21, 1909	Mar. 17, 1911	
				Mar. 28, 1910	July 10, 1911	
	G. N. Ry. Co	do	do	May 15, 1909	Aug. 11, 1913	
	do	do	do	do	Jan. 15, 1914	
Cabinet	Arthur J. Soule	Ditch	Mar. 3, 1891	Apr. 5, 1907	Apr. 28, 1908	Yes.
	Clark's Fork Land Co	Ditch and reservoir	do	June 22, 1909	May 21, 1910	
Coeur d'Alene	Idaho N. R. R	Railroad	Mar. 3, 1875	Oct. 26, 1906	Oct. 11, 1907	Do.
	Spokane, Wallace & Interstate Railway Co	do	do	May 25, 1907	Oct. 21, 1910	
Deerlodge	C. M. & S. P. Ry. Co	do	do	Aug. 23, 1906	Feb. 7, 1907	Do.
	Mont. Rapid Transit Co	R-W Road	do	May 14, 1909	Nov. 7, 1912	
	T. T. Black	Reservoir and canal	Mar. 3, 1891	Jan. 26, 1911	June 21, 1912	
Flathead	C. M. & P. S. Ry. Co	Railroad	Mar. 3, 1875	Aug. 17, 1909	June 14, 1913	
Gallatin	Bozeman Cr. Res. Co	Irrigation reservoir	Mar. 3, 1891	Sept. 21, 1901	Dec. 17, 1901	1903.
Do	Walt. Cooper	Reservoir	do	May 7, 1903	Nov. 19, 1903	Yes.
Do	J. H. Dawes et al	do	do	Aug. 10, 1907	July 13, 1908	Abandoned.
Helena	C. M. & S. P. Ry. Co	Railroad	Mar. 3, 1875	Aug. 23, 1906	(?)	Yes.
Kanikszu	Idaho & Wash. N. Ry. Co	do	do	May 21, 1909	Jan. 3, 1911	
Do	Idaho Cen. Ry. Co	do	do	Feb. 15, 1909 May 14, 1910	June 13, 1910	
Lewis and Clark	Val.-Mont. L. & Water Co	Reservoir site	Mar. 3, 1891	Jan. 13, 1912	Apr. 11, 1912	
Lolo	C. M. & P. S. Ry. Co	Railroad	Mar. 3, 1875	Mar. 12, 1907	Sept. 8 to 15, 1908.	1910.
Do	N. Pac. Ry. Co	do	do	May 28, 1907	June 11, 1908	Yes.
Do	Clearwater Short Line Ry. Co	do	do	June 5 to July 28, 1909.	Mar. 30, 1912	
Madison	Bell and Martin	Reservoir	Mar. 3, 1891	Apr. 24, 1903	Sept. 12, 1903	
Do	B. C. Johnson	Ditch	do	Feb. 1, 1905	Mar. 7, 1907	No.
Do	Wm. Wilcox	Reservoir and Sunrise Lake	do	Oct. 7, 1905	Sept. 24, 1906	
Do	F. H. Wolverton	Reservoir, Twin Lakes	do	do	do	No.
Do	Yellowstone Park R. R. Co	Railroad	Mar. 3, 1875	Jan. 9, 1906	June 7, 8, 9, 1906.	Yes.
Do	do	Station grounds	do	Feb. 13, 1906	Nov. 10, 1906	Yes.
Do	Head & Snyder	Reservoir	Mar. 3, 1891	Feb. 19, 1906	Dec. 31, 1906	None.
Do	Mont. Reservoir and Irrigation Co	do	do	Sept. 18, 1906	Dec. 6, 1907	
Do	Mont. Reservoir & Irrigation Co	do	do	do	do	
Pend Oreille	Spo' ane International Ry. Co	Railroad	Mar. 3, 1875	Jan. 22, 1907	Jan. 24, 1908	Yes.
Selway	Clearwater Short Line Ry. Co	do	do	Sept. 4, 1909	May 31, 1912	
Sioux	Wm. F. Schroeder, jr	Conduit and reservoir	Mar. 3, 1891	Feb. 8, 1911	Nov. 26, 1912	

List of approved easements in national forests—Continued.

DISTRICT 2—COLORADO, MINNESOTA, SOUTH DAKOTA, WYOMING.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Arapaho	Igo, Albert, et al	Ditch	Mar. 3, 1891	Dec. 1, 1902	Aug. 20, 1903	
Do	Col. & Grand River R. R	Railroad	Mar. 3, 1875	Aug. 31, 1904	Aug. 7, 1907	
Do	Doloff, J. B	Ditch	Mar. 3, 1891	Oct. 17, 1904	July 25, 1905	Sept. 30, 1909.
Do	Water Supply & Storage Co	do	do	Nov. 16, 1904	July 12, 1907	
Do	Moun. Supply & Ditch Co	do	do	May 27, 1905	Oct. 17, 1906	
Do	Roc y Mountain Ry. Co	Railroad	Mar. 3, 1875	Feb. 19, 1906	June 20, 1907	
Do	Comm. Cons. Canal & Reservoir Co	Ditch	Mar. 3, 1891	July 9, 1907	Jan. 4, 1908	
Do	Polhamus, A. F	Ditch and reservoir	do	Mar. 5, 1908	Dec. 5, 1908	
Do	Williams, Lysander P	Ditch	do	Oct. 29, 1909	Nov. 26, 1912	
Do	Continental Tunnel Ry. Co	Railroad	Mar. 3, 1875	Oct. 22, 1907	Apr. 4, 1911	
Battlement	Rice, Ellis et al	Reservoir	Mar. 3, 1891	June 1, 1895	Jan. 3 1896	
Do	Surface Cr. Ditch and Reservoir Co	do	do	July 2, 1895	June 16, 1896	
Do	Battlement Reservoir Co	do	do	Mar. 30, 1897	Jan. 26, 1900	
Do	Williams, W. H	do	do	Feb. 26, 1902	Feb. 13, 1903	
Do	Bolen, Henry, et al	Reservoir and ditch	do	July 13, 1902	Nov. 16, 1903	Nov. 16, 1908.
Do	Grand Mesa Reservoir Co	do	do	Aug. 1, 1902	June 20, 1903	
Do	Ternahan, Wm., et al	Reservoir	do	Aug. 27, 1902	July 17, 1903	
Do	Morrison, W. W., et al	Reservoir and ditch	do	Oct. 31, 1902	Aug. 26, 1903	
Do	do	do	do	do	do	
Do	Barnwell, R. E., et al	Reservoir	do	Nov. 8, 1902	Sept. 17, 1904	
Do	Kitson, T. E	do	do	Dec. 12, 1902	Sept. 26, 1903	
Do	Hansen, John E	do	do	Jan. 19, 1903	Mar. 7, 1907	
Do	Park Reservoir Co	do	do	May 9, 1903	Mar. 31, 1904	
Do	Burnett, Stella C	Reservoir and ditch	do	June 3, 1903	Feb. 4, 1904	
Do	Battlement Mesa Ditch & Reservoir Co	Reservoir	do	July 2, 1903	Jan. 19, 1907	
Do	Blackman, C. F	do	do	July 24, 1903	Mar. 7, 1907	
Do	Mesa Cr. Reservoir & Canal Co	Ditch and reservoir	do	Aug. 10, 1903	Apr. 28 1904	
Do	Coon Cr. Reservoir & Ditch Co	Ditches and reservoir	do	Aug. 25, 1903	Feb. 19, 1907	
Do	Wenger, Elias, et al	Reservoir	do	Sept. 1, 1903	Apr. 9, 1904	
Do	Atwell, Chas H., et al	do	do	Oct. 7, 1903	Feb. 6, 1908	
Do	McMurrey, W. T	do	do	do	Apr. 19, 1904	
Do	Vela, James	do	do	do	Mar. 11, 1904	
Do	B. C. Res. Co	Reservoir and ditch	do	Oct. 21, 1903	Jan. 30, 1905	
Do	Smith, W. L	do	do	Nov. 3, 1903	Feb. 9, 1904	
Do	Rawlings, W. O	Reservoirs Nos. 1 and 2	do	Dec. 2, 1903	Feb. 23, 1907	
Do	Steele, W. E., et al	Reservoir	do	Dec. 21, 1903	Oct. 19, 1904	
Do	Jaques, Maria, and McM., Wm	do	do	Jan. 14, 1904	June 22, 1904	
Do	Anderson, David, sr., et al	do	do	Jan. 22, 1904	Mar. 10, 1905	
Do	Hocker, John B., sr	do	do	Jan. 26, 1904	June 24, 1904	
Do	Clark, H. A., et al	do	do	Feb. 5, 1904	Jan. 13, 1908	

Do	Kelmeier, W. F	do	do	Feb. 6, 1904	June 11, 1904
Do	Sackett, Wm. Wallace	do	do	Feb. 16, 1904	July 6, 1904
Do	Daughty, F	do	do	Feb. 24, 1904	June 10, 1904
Do	Patterson, Jas	do	do	Feb. 26, 1904	Sept. 20, 1904
Do	Brockman, Fred	do	do	Mar. 4, 1904	June 30, 1904
Do	Ellington, A. C., et al	Reservoir and ditch	do	do	June 21, 1904
Do	Gray & Rickey	do	do	do	June 20, 1904
Do	Barrow, W. J	do	do	do	June 21, 1904
Do	Woods, Hardy, et al	Reservoir	do	do	Nov. 22, 1905
Do	Hathaway, W. S., et al	Reservoir and ditch	do	do	June 21, 1904
Do	Dog Fish Lake Reservoir Co	Reservoir	do	Mar. 21, 1904	June 29, 1904
Do	Crater Reservoir Co	do	Mar. 3, 1901	do	do
Do	Ellington, L. C., et al	do	Mar. 3, 1891	do	Aug. 2, 1904
Do	Allen, Avery & O'Kelly, L	do	do	do	Sept. 27, 1904
Do	Reynolds, Wm., et al	do	do	do	June 20, 1904
Do	Turnbull Cen. Land & Cattle Co	do	do	do	June 29, 1904
Do	Woods, Hardy, et al	Reservoir and ditch	do	do	Sept. 13, 1904
Do	Jacobson, Lewis, et al	Reservoir	do	Mar. 30. 1904	July 9, 1904
Do	Youngs Cr. Reservoir Co	do	do	Apr 22, 1904	Mar. 23, 1905
Do	Womack, Eliza J	do	do	Apr. 28, 1904	Jan. 19, 1905
Do	Ellington, A. C., & Patten, J. W	do	do	May 10, 1904	Mar. 24, 1905
Do	McKoon, J. L., et al	do	do	May 11, 1904	Sept. 28, 1904
Do	Shelledy, John, et al	do	do	June 1, 1904	May 22, 1907
Do	Kiser, Wm	do	do	June 5, 1904	Apr. 11, 1905
Do	Dale, Jos. H	do	do	June 10, 1904	Oct. 9, 1906
Do	Ratekin, John B., et al	do	do	do	Mar. 28, 1905
Do	Gregg, C. I	do	do	July 13, 1904	Jan. 28, 1905
Do	Milner, Jefferson, et al	do	Mar. 3, 1891	July 22, 1904	Mar. 17, 1909
Do	Reynolds, Wm. S	do	do	July 27, 1904	June 28, 1905
Do	Ternahan, John, et al	do	do	Aug. 6, 1904	May 29, 1905
Do	Cedar Mesa Ditch & Reservoir Co	do	do	Sept 20, 1904	Oct. 4, 1905
Do	Anderson, David, jr	do	do	Feb. 3, 1905	July 6, 1906
Do	Irving, John E., et al	do	do	Feb. 6, 1905	Apr. 16, 1910
Do	Jones, Perry	Reservoirs	do	Feb. 25, 1905	Apr. 23, 1907
Do	Duke, Geo. H., et al	Reservoir	do	Mar. 18, 1905	Aug. 25, 1905
Do	Cottonwood Lakes Reservoir Co	Reservoirs	do	Apr. 11, 1905	Oct. 9, 1906
Do	Marcot Park Ditch & Reservoir Co	Reservoir	do	Apr. 28, 1905	Oct. 13, 1905
Do	Irving, John E., et al	Reservoir (extension)	do	May 8, 1905	Apr. 6, 1905
Do	Crank, Barlow	Reservoirs	do	May 22, 1905	Mar. 28, 1906
Do	Doughty, B. F	Reservoir	do	do	Jan. 4, 1906
Do	Military Park Res. Co	do	do	do	Sept. 22, 1906
Do	Stolte, Ernest, et al	do	do	do	Jan 10, 1906
Do	Leon Lake Ditch & Reservoir Co	Ditches and reservoirs	do	July 5, 1905	Feb. 25, 1907
Do	Cole, John E., et al	Reservoirs	do	Aug. 4, 1905	Nov. 6, 1907
Do	Pike, Chas. I	Reservoir	do	Aug. 29, 1905	Mar. 14, 1906
Do	Zanola, Caeser, & Pelazina, John	do	do	Sept. 18, 1905	Mar. 19, 1906
Do	Perry, Wm. L	do	do	Sept. 19, 1905	Nov. 1, 1906
Do	Teachant, E. C., et al	Reservoirs	do	Sept. 21, 1905	Mar. 14, 1906
Do	Smethurst, Wm. B	Reservoir	do	do	Sept. 26, 1906
Do	Womack, Eliza J	do	do	Oct. 19, 1905	Feb. 14, 1906
Do	Hixon, John, & Enos, George	do	do	Oct. 23, 1905	Dec. 27, 1906
Do	Plumb, Porter	do	do	Oct. 26, 1905	Jan. 10, 1906
Do	McKinnon, John A., et al	do	do	Dec. 6, 1905	Apr. 9, 1907

List of approved easements in national forests—Continued.

DISTRICT 2—COLORADO, MINNESOTA, SOUTH DAKOTA, WYOMING—Continued.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Battlement	Patton, Mary L.	Reservoir	Mar. 3, 1891	Jan. 4, 1906	Dec. 3, 1906	
Do	Irving, John E., et al.	do	do	Jan. 16, 1906	Nov. 4, 1907	
Do	Mesa Cr. Res. & Canal Co.	Reservoirs	do	Apr. 12, 1906	Mar. 25, 1907	
Do	Caldwell, James P., et al.	Reservoir	do	Apr. 24, 1906	Oct. 15, 1906	
Do	Hixon, John, & Enos, George	Ditch	do	May 21, 1906	Feb. 18, 1908	
Do	Surface Cr. Ditch & Reservoir Co.	Reservoir	do	May 22, 1906	Dec. 20, 1906	
Do	Roberts, H. E., et al.	do	do	June 4, 1906	May 21, 1908	
Do	Enos, Geo., & Hixon, Jno.	Reservoirs	do	July 2, 1906	Dec. 27, 1906	
Do	Linn, A. G.	Ditch	do	do	Apr. 29, 1908	
Do	Hale, Harry, & Pulver, George A.	Reservoir	do	July 25, 1906	Nov. 14, 1906	
Do	Weir & Johnson Ditch & Reservoir Co.	Reservoir	do	Aug. 2, 1906	Feb. 25, 1907	
Do	Rockland Reservoir Co.	Reservoirs	do	Aug. 7, 1906	Oct. 28, 1909	
Do	Van Pelt, Wm.	do	do	Aug. 13, 1906	May 4, 1907	
Do	Granby Ditch & Reservoir Co.	do	do	Sept. 28, 1906	Oct. 5, 1907	
Do	Parker Basin Reservoir Co.	do	do	Oct. 22, 1906	June 20, 1907	
Do	Woods, Hardy	Reservoir	do	Dec. 11, 1906	Feb. 1, 1908	
Do	Cox, John W.	do	do	Feb. 4, 1907	Sept. 9, 1907	
Do	Larson, C. R.	do	do	Feb. 6, 1907	June 6, 1908	
Do	Burkhalter, Simon R.	Reservoirs	do	Feb. 8, 1907	Sept. 24, 1907	
Do	Kirkendall, L. B. C., et al.	Reservoir	do	do	Aug. 30, 1907	
Do	McMurray, W. T.	do	do	Feb. 9, 1907	Aug. 1, 1907	
Do	Bendix, C. F.	do	do	Apr. 27, 1907	Aug. 2, 1907	
Do	Koperhofer, John	do	do	May 17, 1907	Apr. 8, 1908	
Do	Monroe & Barnes	Reservoir and ditch	do	June 25, 1907	Dec. 17, 1907	
Do	Ratekin, John B., et al.	Reservoirs	do	July 16, 1907	Feb. 13, 1908	
Do	Parker, Fred J.	Reservoir	do	July 17, 1907	Nov. 1, 1907	
Do	Bull Creek Reservoir, Canal & Power Co.	Reservoirs	do	Aug. 12, 1907	Oct. 11, 1908	
Do	Reich, Lyman & Bennett, R. O.	Reservoir	do	Sept. 8, 1907	Aug. 15, 1908	
Do	Town of Delta	Pipe line	Feb. 1, 1905	Sept. 15, 1907	Dec. 18, 1907	1908.
Do	Wallace, James C.	Reservoir	Mar. 3, 1891	Oct. 26, 1907	Apr. 17, 1908	
Do	Currier, E. J., et al.	Ditch	do	Feb. 24, 1908	Feb. 13, 1909	
Do	Keough, Miles J.	Reservoir	do	May 6, 1908	Jan. 21, 1909	
Do	Caldwell, James P., et al.	do	do	Aug. 23, 1908	Oct. 11, 1910	
Do	Kitchen, W. J., et al.	do	do	Sept. 9, 1908	Mar. 26, 1910	
Do	Laurent, Antoine M.	do	do	Nov. 10, 1908	Jan. 13, 1910	
Do	Price, Edwin, et al.	do	do	Nov. 16, 1908	Feb. 15, 1910	
Do	Orchard Mesa Ditch & Reservoir Co.	Ditch	do	Feb. 23, 1909	Jan. 19, 1910	
Do	Penny, Chas. F., et al.	Reservoirs	do	Apr. 22, 1909	Oct. 16, 1912	
Do	Leon Lake Ditch & Reservoir Co.	Ditches and reservoirs	do	do	Mar. 26, 1910	
Do	Jackson, Wm. C.	Reservoir	do	May 3, 1909	May 19, 1911	

Do	Anderson, R. T. & M	Reservoirs	do	May 15, 1909	June 30, 1910	
Do	Porter, Herbert K	do	do	July 10, 1909	Dec. 11, 1912	
Do	Carpenter, A. A., et al	Ditch	do	July 13, 1909	May 24, 1911	
Do	Porter, Herbert K	Reservoirs	do	Sept. 9, 1909	Dec. 13, 1913	
Do	Battlement Water Supply Co	do	do	Sept. 27, 1909	May 27, 1912	
Do	Hawxhurst, Henderson, et al	Reservoir	do	Nov. 29, 1909	Dec. 8, 1913	
Do	Ellington, A. C	Reservoir and ditch	do	Dec. 15, 1909	May 2, 1912	
Do	Delta, City of	Reservoir	Feb. 1, 1905	Feb. 1, 1910	Nov. 19, 1910	
Do	Delta County Ditch & Reservoir Co	Ditch	Mar. 3, 1891	Feb. 16, 1910	June 23, 1911	
Do	Shadow, John W., et al	Reservoir	do	Mar. 21, 1910	Jan. 23, 1912	
Do	Linn, Chas., & Reed, Ralph R	Reservoirs	do	Mar. 29, 1910	Dec. 5, 1910	
Do	Price, Edwin, et al	Ditch	do	Apr. 12, 1910	Jan. 2, 1913	
Do	Rogers, E. H., et al	do	do	July 26, 1910	Mar. 13, 1913	
Do	Womack, Wm. B	Reservoir	do	Oct. 10, 1910	Dec. 11, 1912	
Do	Atkinson, Guy L	do	do	Oct. 31, 1910	Aug. 5, 1912	
Do	Vela, James	do	do	do	Nov. 10, 1911	
Do	do	do	do	Nov. 3, 1910	Sept. 22, 1913	
Do	January, E. W	do	do	Dec. 23, 1910	Dec. 8, 1913	
Do	Basin Ditch & Reservoir Co	Reservoirs	do	Feb. 25, 1911	Mar. 19, 1913	
Do	Owens, Rowland	Reservoir	do	Mar. 20, 1911	Mar. 24, 1913	
Do	Cottonwood Lakes Reservoir Co	Reservoir (amended)	do	Aug. 29, 1911	Oct. 30, 1913	
Do	Roper, James P. & John P	Reservoir and ditch	do	Oct. 10, 1911	Sept. 27, 1913	
Do	Wick, H. G., & Townsend	Reservoirs	do	Dec. 28, 1911	Mar. 20, 1914	
Do	Clark, F., & Goding, R	do	do	Mar. 6, 1912	Feb. 2, 1914	
Do	Currier, E. J	Reservoir (enlargement)	do	do	Jan. 30, 1914	
Do	Marcos Park Ditch & Reservoir Co	Reservoir	do	Mar. 28, 1912	Dec. 8, 1913	
Do	Caldwell, James O	Reservoir and ditches	do	do	do	
Do	Lowe, B., & Whiting, J. A	Reservoirs	do	do	Nov. 6, 1913	
Do	do	Reservoir	do	do	do	
Do	Briggs, F. A., & Markle, F. D	do	do	Apr. 23, 1912	Oct. 29, 1913	
Do	Gardner, D. L., & Caldwell, J. O	do	do	do	Jan. 30, 1914	
Do	Hartman, E. R., & Argeter, E. C	Reservoir (amended)	do	do	Apr. 27, 1914	
Do	Battlement Water Supply Co	Reservoir	do	do	Jan. 30, 1914	
Do	Craig, A. R., & Barnes, C. F	do	do	July 29, 1912	Nov. 3, 1913	
Do	Ryan, W. T., & Beckley, M. S	do	do	July 18, 1911	Dec. 8, 1913	
Do	Wigram, L. R., & Millard, Fairlamb	do	do	June 12, 1911	Oct. 30, 1913	
Do	Bert Lowe & J. A. Whiting	do	do	June 2, 1913	Apr. 11, 1914	
Bighorn	Whitney, Edward	do	do	Dec. 4, 1897	Jan. 12, 1898	
Do	Colorado Colony Ditch Co	Reservoirs	do	Apr. 2, 1901	June 25, 1902	
Do	Consolidated Reservoir & Ditch Co	Reservoir	do	May 2, 1902	Oct. 8, 1903	1910.
Do	Rock Creek & Piney Reservoir & Ditch Co	Reservoirs and canal	do	July 2, 1902	Jan. 4, 1904	1910.
Do	Templeton, E. S	Reservoir	do	Mar. 10, 1906	May 18, 1908	
Do	Gillette, Edward	Reservoirs	do	July 25, 1906	Mar. 18, 1907	
Do	Templeton, E. S	Reservoir	do	Sept. 22, 1906	May 18, 1908	
Do	Kearney Lake Land & Reservoir Co	do	do	Dec. 27, 1907	Sept. 27, 1907	
Do	Lovell, W. D. (assignee, E. S. Templeton)	do	do	Dec. 18, 1907	Dec. 7, 1908	
Do	Wyoming Storage & Water Supply Co	do	do	Jan. 21, 1908	Nov. 13, 1909	
Do	The Bighorn Reservoir Co	do	do	July 26, 1909	Jan. 25, 1910	
Do	Lovell, W. D	Reservoir (enlargement)	do	Jan. 8, 1910	Dec. 5, 1910	1910.
Do	do	Diversion ditch	do	Jan. 27, 1910	Mar. 1, 1911	1910.
Do	Kansas City Big Horn Irrigation Co	Reservoir and ditch	do	June 19, 1912	Jan. 30, 1914	

List of approved easements in national forests—Continued.

DISTRICT 2—COLORADO, MINNESOTA, SOUTH DAKOTA, WYOMING—Continued.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Black Hills	Missouri R. & N. W. Ry. Co	Railroad	Mar. 3, 1875	Oct. 8, 1891	Dec. 19, 1891	
Do	Homestake Mining Co	Conduit	Feb. 1, 1905	Feb. 17, 1905	Oct. 3, 1905	1900.
Do	Black Hills & Ft. Pierre R. R. Co	Railroad	Mar. 3, 1875	Nov. 13, 1905	Aug. 8, 1906	
Do	Branch Mint R. R. Co	do	do	Apr. 7, 1906	Mar. 22, 1907	
Do	Black Hills & Ft. Pierre R. R. Co	do	do	July 26, 1908	Nov. 6, 1909	
Do	Homestake Mining Co	Conduit	Feb. 1, 1905	Mar. 4, 1909	June 19, 1909	
Bridger	Freemont Lake Irrigation Co	Canal	Mar. 3, 1891	Aug. 30, 1910	Dec. 23, 1913	
Do	De Nise, Katherine G	Reservoir	do	Mar. 27, 1912	Apr. 26, 1913	
Cochetopa	Champ, W. H., and Bond, P. C	do	do	Jan. 21, 1904	July 11, 1906	
Do	Marvin, J. L., and Droney, James	do	do	Sept. 10, 1903	Feb. 29, 1904	
Colorado	Ferguson, Robert	Reservoir and ditches	do	Apr. 8, 1892	Nov. 21, 1892	
Do	Water Supply & Storage Co	Ditch	do	June 21, 1895	Apr. 19, 1897	1893.
Do	Longs Peak Reservoir & Irrigation Co	Reservoirs	do	Oct. 18, 1897	June 29, 1908	
Do	Beaver Brook Reservoir & Canal Co	Reservoir	do	Dec. 21, 1900	Mar. 3, 1903	Oct., 1905.
Do	Bailey, George W	Reservoir	do	Feb. 5, 1902	Sept. 2, 1904	1905.
Do	Nun Cree Reservoir & Supply Ditch Co	Reservoir and ditch	do	June 25, 1902	Apr. 11, 1904	
Do	Bellairs, Malcom	do	do	Mar. 4, 1903	Oct. 20, 1904	
Do	Farmers Irrigation Ditch & Reservoir Co	Reservoir	do	May 14, 1903	Dec. 19, 1903	1907.
Do	Grable, F C	do	do	Mar. 21, 1906	July 22, 1908	
Do	McFadden, George B	Reservoirs and pipe line	do	Sept. 18, 1906	Sept. 11, 1907	
Do	Laramie-Poudre Reservoir & Irrigation Co	Conduits	do	Apr. 9, 1907	Mar. 29, 1909	
Do	Larimer & Routt County R. R. Co	Railroad	Mar. 3, 1875	Dec. 20, 1907	Sept. 5, 1908	
Do	Walsh, Frank D	Reservoir	Mar. 3, 1891	Mar. 9, 1908	Sept. 24, 1908	
Do	Tenney, R. Q	Dam and ditch	do	Mar. 13, 1908	Apr. 13, 1910	
Do	Heseltine, F. L	Reservoirs	do	May 7, 1908	Jan. 16, 1909	
Do	Degge, W. W	Reservoir	do	June 12, 1908	Aug. 18, 1909	
Do	Supply Reservoir Co	do	do	Sept. 2, 1909	Sept. 30, 1910	
Do	Laramie-Poudre Reservoir & Irrigation Co	do	do	Dec. 24, 1909	Dec. 11, 1911	
Do	Fair, Isabell	Reservoirs	do	Mar. 14, 1911	Mar. 25, 1912	
Do	Lee, N. R	do	do	Jan. 23, 1912	Sept. 26, 1913	
Do	Burford, C. S	Reservoir	do	Dec. 30, 1912	Mar. 16, 1914	
Do	do	do	do	do	do	
Do	do	do	do	do	do	
Do	do	do	do	do	do	
Durango	Kirkpatrick, W. T	do	do	Sept. 5, 1895	Jan. 7, 1896	
Do	Florida Canal Co	Reservoirs	do	May 27, 1901	Dec. 16, 1901	
Do	Colorado Development & Ditch Co	Reservoir	do	June 29, 1904	May 18, 1906	
Gunnison	Minnesota Canal & Reservoir Co	do	do	Sept. 30, 1905	Mar. 26, 1906	Oct. 22, 1911.
Do	Todd, Fannie I	do	do	May 28, 1906	Feb. 18, 1907	Oct. 17, 1908.
Do	Grand View Canal & Irrigation Co	Reservoirs, ditches and tunnels.	do	May 17, 1907	Nov. 7, 1907	

Do	Lone Cabin Ditch & Reservoir Co	Reservoir and ditch	do	Aug. 5, 1907	May 21, 1908	Mar. 22, 1911.
Do	Inter Ocean Ditch & Reservoir Co	Reservoir and ditches	do	Aug. 8, 1907	Feb. 14, 1908	1908.
Do	Hawkins, C. C	do	do	Oct. 29, 1908	June 18, 1909	1911.
Do	United Colorado Mines Co	Conduit and power house	Feb. 1, 1905	Feb. 28, 1910	Dec. 31, 1913	
Hayden	Boettcher, Chas., & Marr, Wm	Ditch	Mar. 3, 1891	Dec. 31, 1896	June 8, 1899	Aug. 1, 1897.
Do	Marr, Wm	Reservoir	do	do	June 9, 1899	Do.
Holy Cross	Smith, John, and McMillen, John	Reservoir and ditch	do	Nov. 30, 1904	Aug. 3, 1905	Sept. 14, 1908.
Do	Allison, F. H	Ditches	do	Dec. 23, 1907	Dec. 12, 1908	
Do	Denver & Transcontinental Ry. Co	Railroad	Mar. 3, 1875	Jan. 30, 1908	Mar. 24, 1913	
Do	Castle Mountain Ditch & Reservation Co	Ditch	Mar. 3, 1891	Dec. 29, 1909	Aug. 4, 1911	
Leadville	Koons, Henry, et al	Reservoir	do	Jan. 5, 1897	May 18, 1897	
Do	Jones, A. W., et al	do	do	Jan. 15, 1903	June 22, 1904	
Do	Hoffer, F. J	do	do	May 11, 1906	Oct. 15, 1906	
Do	Buffalo Placer Mining & Metal Co	Ditches and pipe-line	Feb. 1, 1905	July 29, 1907	Jan. 30, 1909	
Do	Allison, F. H	Ditches	Mar. 3, 1891	Dec. 23, 1907	Dec. 23, 1908	
Do	Denver & Trans-continental Ry. Co	Railroad	Mar. 3, 1875	Jan. 30, 1908	Mar. 24, 1912	
Do	Trimmer, J. F., and Spencer, Chas	Reservoirs and ditches	Mar. 3, 1891	Sept. 19, 1908	Oct. 9, 1908	
Do	Spencer, Chas., and Burton, H. E	Reservoir	do	Oct. 5, 1908	Mar. 9, 1910	
Do	Hoffer	Reservoirs and conduits	do	Dec. 26, 1908	Mar. 1, 1910	
Do	Excelsior M. N. & E. Co	Reservoir	Feb. 1, 1905	Jan. 14, 1909	Sept. 29, 1910	
Do	Plat River Land, Reservoir, & Irrigation Co	Reservoirs and canals	Mar. 3, 1891	Nov. 30, 1909	Mar. 9, 1910	
Do	Tudor	Reservoir and pipe-line	Feb. 1, 1905	Mar. 8, 1910	Mar. 16, 1911	
Medicine Bow	Laramie, Hahn Pk. & Pac. Ry. Co	Railroad	Mar. 3, 1875	Jan. 15, 1908	June 24, 1908	Nov., 1908.
Do	do	Railroad (amended)	do	Apr. 19, 1909	Nov. 8, 1909	Do.
Do	French Creek Irrigation & Development Co	Ditch	Mar. 3, 1891	Nov. 30, 1910	Mar. 24, 1913	
Do	Laramie Water Co	Canal	do	Mar. 9, 1912	June 13, 1912	
Do	Basler Reservoir		do	May 2, 1912	Jan. 30, 1914	
Minnesota	Minn. St. P. & S. St. Marie Ry. Co	Railroad and station	Mar. 3, 1875	Apr. 15, 1909	Mar. 30, 1911	
Montezuma	Loan Cone Ditch Co	Ditch	Mar. 3, 1891	Aug. 16, 1904	Mar. 28, 1908	1888.
Do	Puett	Reservoir and canal	do	Mar. 15, 1905	Sept. 9, 1908	1909.
Do	Sellers & McLean	Reservoir and ditch	do	Jan. 31, 1906	Sept. 9, 1907	
Do	Lily Lands Canal & Reservoir Co	Canal	do	June 6, 1907	Nov. 24, 1906	
Do	Rights Mesa Ditch & Reservoir Co	do	do	Sept. 8, 1908	Jan. 5, 1910	
Do	Lily Lands & Reservoir Co	Ditch	do	Dec. 2, 1908	May 10, 1910	
Do	Nelson Reservoir & Ditch Co	do	do	Oct. 5, 1910	Sept. 25, 1913	
Do	Crystal Creek Water Co	Laterals	do	Apr. 1, 1911	Nov. 3, 1913	
Do	Hallet & Osbin	Reservoir and ditches	do	Apr. 22, 1911	Sept. 17, 1912	
Pike	Manitou & Pike's Peak Ry. Co	Railroad and station	Mar. 3, 1875	Sept. 17, 1889	Mar. 10, 1890	
Do	Highline Reservoir Co	Reservoir	Mar. 3, 1891	July 23, 1892	Dec. 14, 1892	
Do	South Platte Canal & Reservoir Co	Pipe-line	do	Oct. 8, 1894	Nov. 2, 1899	
Do	do	Reservoir	do	do	Aug. 19, 1895	
Do	Boulder High Line Co	do	do	Jan. 7, 1895	July 27, 1895	
Do	Denver Project & Irrigation Co	Reservoirs, canals, etc	do	Mar. 13, 1899	June 20, 1901	
Do	South Platte Canal & Reservoir Co	Pipe-line (extension)	do	Aug. 12, 1899	Nov. 2, 1899	
Do	do	Reservoir	do	Apr. 12, 1900	July 3, 1900	
Do	Reid	Reservoir	Mar. 3, 1891	May 7, 1903	Nov. 17, 1903	
Do	Bancroft	do	do	June 19, 1903	Feb. 26, 1904	
Do	do	do	do	June 20, 1903	June 23, 1904	
Do	Schuyler	do	do	Sept. 6, 1904	Mar. 8, 1906	
Do	Gilpin & Clear Creek District R. R. Co	Railroad	Mar. 3, 1875	Aug. 9, 1905	July 12, 1907	
Do	Argentine Cent. Ry. Co	do	do	Dec. 2, 1905	Aug. 17, 1906	
Do	Denver & Transcontinental Ry. Co		do	Dec. 6, 1906	Nov. 19, 1907	

List of approved easements in national forests—Continued.

DISTRICT 2—COLORADO, MINNESOTA, SOUTH DAKOTA, WYOMING—Continued.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Pike	Grimes	Reservoir	Mar. 3, 1891	May 21, 1907	Dec. 6, 1907	
Do	Denver & Transcontinental Ry. Co	Railroad	Mar. 3, 1875	Oct. 14, 1907	Mar. 21, 1908	
Do	Continental Tunnel Ry. Co	do	do	Oct. 22, 1907	Apr. 4, 1911	
Do	Denver & Transcontinental Ry. Co	do	do	Jan. 30, 1908	Mar. 24, 1913	
Do	Engel et al	Reservoir	Mar. 3, 1891	June 3, 1908	Aug. 25, 1909	
Do	Colorado Springs, City of	do	Feb. 1, 1905	Mar. 3, 1909	Apr. 25, 1911	
Do	Bancroft	do	Mar. 3, 1891	Oct. 2, 1909	Apr. 18, 1911	
Do	Brooks	Reservoir (amended)	do	Feb. 5, 1910	Nov. 5, 1911	
Do	Wall	Reservoir	do	Nov. 23, 1910	Sept. 26, 1912	
Do	Town of Manitou	Reservoir and pipe line	Feb. 1, 1905	Oct. 29, 1912	Jan. 30, 1914	
Rio Grande	Pierce	Reservoir	Mar. 3, 1891	Sept. 5, 1893	Feb. 14, 1895	
Do	do	do	do	Sept. 18, 1893	do	
Do	Shaw	do	do	Aug. 18, 1897	Oct. 26, 1907	1904.
Do	Robb	do	do	Jan. 11, 1900	Sept. 25, 1907	
Do	Weiss	do	do	Jan. 16, 1900	Feb. 18, 1907	
Do	San Luis Valley Reservoir Co	do	do	Nov. 16, 1901	Feb. 25, 1907	
Do	Conejos County Reservoir Co	do	do	Oct. 29, 1902	Nov. 21, 1907	
Do	Tabor	do	do	Feb. 8, 1904	Nov. 19, 1907	
Do	Fullington	do	do	Nov. 28, 1905	Mar. 25, 1907	
Do	Rio Grande Reservoir & Ditch Co	Reservoir and ditches	do	Aug. 11, 1906	Nov. 16, 1907	
Do	Poage	Reservoir	do	Aug. 20, 1906	Feb. 18, 1907	
Do	Weiss	do	do	Dec. 13, 1906	Sept. 11, 1907	
Do	Keck Christian	do	do	Feb. 7, 1907	Apr. 16, 1908	
Do	Continental L. & I. Co	do	do	May 11, 1907	Apr. 22, 1908	
Do	Regan	Reservoir (amended)	do	Sept. 5, 1907	July 5, 1912	
Do	Davies	Reservoir	do	Apr. 20, 1908	Apr. 12, 1910	
Do	Palmer	do	do	Apr. 21, 1908	Oct. 28, 1908	
Do	do	do	do	Apr. 28, 1908	Nov. 2, 1908	
Do	Clark	Ditch and reservoir	do	June 3, 1908	Mar. 11, 1909	
Do	Galbarth	Reservoir	do	Sept. 14, 1908	Dec. 5 1910	
Do	Collins	do	do	Mar. 12, 1909	Oct. 12, 1910	
Do	Robb	Reservoir	Mar. 3, 1891	May 29, 1909	July 11, 1913	
Do	Kreps	do	do	June 3, 1909	Dec. 24, 1909	
Do	Hall	do	do	Nov. 12, 1909	Apr. 16, 1911	
Do	Walker	do	do	Dec. 20, 1909	July 7, 1911	
Do	Soward	Reservoir and ditch	do	Dec. 26, 1911	Apr. 30, 1913	
Do	do	do	do	do	do	
Routt	Weyrough	do	do	Jan. 23, 1904	July 13, 1904	
Do	Park	do	do	May 13, 1905	June 5, 1905	1906.
Do	Denver N. W. & Pac. R. W. Co	Railroad	Mar. 3, 1875	May 11, 1906	Mar. 6, 1909	

Do	Smith	Reservoir	Mar. 3, 1891	Aug. 20, 1906	Aug. 1, 1907	
Do	do	Ditch	do	Aug. 22, 1906	Jan. 28, 1907	
Do	Colo. & No. R. W. Co	Railroad	Mar. 3, 1875	Mar. 19, 1907	Sept. 23, 1907	
Do	Smith	Reservoir and ditches	Mar. 3, 1891	May 8, 1907	Mar. 15, 1910	
Do	do	Reservoir	do	Oct. 16, 1907	Mar. 12, 1909	
Do	Brown & Gabriel	do	do	Mar. 26, 1908	Nov. 11, 1909	
Do	Hadley	Ditch	do	Oct. 22, 1909	May 13, 1911	
Do	G. N. Irri. & Pr. Co	Canal and reservoir	do	Oct. 30, 1909	June 16, 1910	
Do	Anderson	Reservoir and ditch	do	Dec. 29, 1909	Nov. 2, 1910	
Do	Perkins	do	do	Apr. 29, 1910	May 16, 1911	
Do	Decker	do	do	May 31, 1910	Mar. 27, 1911	
Do	Noble	do	do	June 12, 1911	Aug. 21, 1912	
Do	Burroughs	Reservoir	do	Mar. 5, 1912	Dec. 18, 1913	
Do	Decker	Reservoir and ditch	do	June 29, 1912	Feb. 14, 1914	
San Isabel	Tompkins	Reservoir	do	Mar. 21, 1895	Aug. 16, 1895	
Do	Reid	do	do	Feb. 1, 1896	Oct. 10, 1896	
Do	Balman	do	do	Apr. 4, 1898	Sept. 6, 1906	1903.
Do	Elberson	do	do	July 8, 1907	Mar. 17, 1908	
Do	Smith et al	do	do	Oct. 3, 1907	Aug. 10, 1908	
Do	Montez & Smith	do	do	Aug. 10, 1909	Dec. 15, 1910	
Do	Whitman	Ditch	do	Aug. 25, 1909	Mar. 28, 1910	
Do	Lamb	do	do	Dec. 15, 1909	Sept. 18, 1912	
Do	San Luis Valley Land & Min. Co	Reservoir	do	Oct. 3, 1910	Mar. 5, 1912	
Do	Meyer, Chas. N., Fred C	do	do	Oct. 31, 1910	July 14, 1911	
Do	Marion Mines & Mill Co	do	Feb. 1, 1905	Nov. 22, 1910	Jan. 6, 1912	
Do	Hatley	Ditch	Mar. 3, 1891	Dec. 5, 1910	Aug. 23, 1912	
Do	San Luis Valley Land & Min. Co	Reservoir	do	June 9, 1911	May 16, 1912	
Do	Davidson et al	Ditch	do	Oct. 27, 1911	July 29, 1913	
Do	do	Reservoir	do	Nov. 10, 1911	do	
Do	Peterson et al	do	do	Dec. 20, 1911	June 9, 1913	
Uncompahgre	Wood	do	do	June 5, 1897	Mar. 22, 1898	
Do	Manney	do	do	Feb. 25, 1903	June 30, 1903	
Do	Escalante Ditch & Reservoir Co	Reservoir and ditch	do	Oct. 1, 1907	Nov. 30, 1908	
Do	Ennor	Reservoir	do	Oct. 30, 1908	Sept. 24, 1909	
Do	Carpenter	Ditch	Mar. 3, 1891	Dec. 11, 1908	July 8, 1911	
Do	Castro	Reservoir	do	Dec. 28, 1908	Nov. 10, 1910	
Do	Spradlin & Chatfield	Reservoir and ditch	do	Jan. 13, 1909	Apr. 8, 1910	
Do	Spradlin and Bishoff	Ditch	do	do	Feb. 25, 1910	
Do	Spradlin	Reservoir	do	Jan. 28, 1909	June 4, 1910	
Do	Settle	Ditch	do	Jan. 26, 1910	Oct. 22, 1910	
Do	Silzell	do	do	Oct. 8, 1910	Feb. 24, 1913	
Do	do	do	do	do	Apr. 26, 1913	
Do	Miller	Ditch and reservoir	do	July 27, 1911	Dec. 24, 1913	
White River	Ute Mesa Reservoir & Irrigation Co	Reservoir	do	Mar. 3, 1901	June 13, 1901	
Do	Keener et al	do	do	May 18, 1901	Oct. 28, 1902	
Do	Wilson et al	do	do	Jan. 13, 1904	Apr. 11, 1905	
Do	Dunc ley	Reservoir and ditch	do	Feb. 20, 1904	Nov. 25, 1904	
Do	Finley et al	Ditch	do	do	May 19, 1906	
Do	Coulter	Reservoir and feeder	do	Mar. 11, 1904	Oct. 4, 1904	
Do	do	Ditch	do	do	Mar. 1, 1905	
Do	Leighton	do	do	Apr. 11, 1904	Aug. 18, 1905	
Do	Barger & Gates et al	do	do	July 5, 1904	Dec. 19, 1906	

List of approved easements in national forests—Continued.

DISTRICT 2—COLORADO, MINNESOTA, SOUTH DAKOTA, WYOMING—Continued.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
White River	Finley	Reservoir and ditch	Mar. 3, 1891	July 14, 1904	Sept. 28, 1905	
Do	Powell et al	Reservoir	do	Apr. 12, 1906	Apr. 26, 1907	
Do	do	Reservoir (enlargement) and ditches.	do	July 25, 1906	Aug. 1, 1907	
Do	Roberts	Reservoir and ditch	do	Oct. 10, 1906	Aug. 15, 1907	
Do	Trutham & Moore	do	do	do	Aug. 3, 1907	
Do	Goldstorough	do	do	do	May 27, 1907	1911.
Do	Simon	do	do	Nov. 12, 1906	Sept. 3, 1907	
Do	Purinton	Ditch	do	Nov. 21, 1906	Dec. 16, 1907	
Do	Hughes & Chapman	Reservoir and canal	do	Dec. 4, 1906	Sept. 20, 1907	
Do	Hight & Bird	Reservoir and ditches	do	Oct. 10, 1907	May 5, 1908	
Do	McGaughey, C. M. and Abbie	do	do	Dec. 17, 1907	Jan. 27, 1909	
Do	McGaugh, C. M., Chavis, Ira	do	do	do	June 24, 1910	
Do	Goldstorough	do	do	Mar. 18, 1908	May 14, 1910	
Do	Beardslee et al	Ditch (enlargement)	do	Aug. 17, 1908	Jan. 31, 1906	
Do	Roc hill et al	Ditch and reservoir	do	Nov. 23, 1908	May 12, 1910	
Do	Chatf.eld	Reservoir and ditches	do	Nov. 24, 1908	Mar. 15, 1910	
Do	Smith & Wilson	Reservoir	do	Aug. 25, 1909	July 27, 1911	
Do	Boughner	do	do	Nov. 29, 1909	Feb. 20, 1912	
Do	Rogers	Ditch	do	Dec. 29, 1909	Dec. 5, 1910	
Do	Stillwater Ditch & Reservoir Co	Ditch and reservoir	do	do	June 30, 1911	
Do	West Elk Land & Livestock Co	Ditches	do	Mar. 27, 1911	Apr. 23, 1913	
Do	Funk	Ditch and reservoir	Mar. 3, 1891	Aug. 29, 1911	Jan. 15, 1914	
Do	Stillwater Ditch & Reservoir Co	Reservoir and ditch	do	Nov. 6, 1907	Nov. 12, 1909	

DISTRICT 3.—ARIZONA, NEW MEXICO, OKLAHOMA.

Apache	Colter	Reservoir No. 1	Mar. 3, 1891	June 27, 1908	May 3, 1909	1909.
Do	do	Reservoir No. 2	do	do	Apr. 27, 1909	1909.
Do	Eager Irrigation Co	Reservoirs Nos. 1, 2, 3	do	Jan. 13, 1896	Feb. 8, 1897	92-87-95.
Do	Nelson	Reservoir	do	do	Jan. 11, 1897	1895.
Do	Luna Irrigation Co	do	do	Feb. 12, 1896	Nov. 19, 1896	1896.
Do	Tenny	do	do	Feb. 24, 1896	June 23, 1897	1896.
Do	Westside Ditch & Reservoir Co	do	do	Dec. 21, 1896	Mar. 16, 1897	1896.
Do	Sprousin	do	do	Mar. 16, 1897	June 22, 1897	1897.
Do	Pratt & Adey	Coyote Reservoir	do	Aug. 30, 1897	Sept. 16, 1897	1896.
Do	Reagan	Reservoir	do	Aug. 9, 1909	Nov. 14, 1911	

Do	Round Valley Storage Co	do	do	Feb. 9, 1898	July 2, 1898	Dec. 2, 1888.
Do	Eager et al	Reservoirs Nos. 1 and 2	do	Sept. 19, 1907	May 18, 1908	1909.
Do	Eager, Brown & Slade	Reservoir No. 3	do	Dec. 3, 1910	Feb. 24, 1913	
Do	Nelson	Reservoir	do	Mar. 4, 1911	Sept. 27, 1913	
Do	Harsley	do	do	Apr. 25, 1912	Jan. 14, 1914	
Do	Colter	Reservoir No. 3	do	Oct. 9, 1911	Nov. 6, 1913	1912.
Do	Eager, Brown & Slade	Reservoir No. 5	do	Aug. 26, 1912	Jan. 26, 1914	
Do	Goesling	Reservoir, ditch. and canal	do	May 24, 1912	Dec. 15, 1913	
Do	Lee, Martin & Lund	Reservoir and ditch	do	May 15, 1909	Apr. 8, 1911	
Carson	Howard	Reservoir	do	Dec. 13, 1905	Apr. 6, 1907	
Do	Red River Land & Water Co	Ditch	do	Oct. 4, 1907	Sept. 9, 1908	
Coconino	Fulsom & Cloflin	Reservoir and canal	do	Sept. 26, 1895	July 28, 1896	
Do	Arizona Lumber & Tel. Co	Reservoir and pipe line	Feb. 15, 1901	Mar. 28, 1904	Apr. 25, 1904	
Coronado	The Twin Buttes R. R. Co	Railroad	Mar. 3, 1875	Apr. 26, 1905	Mar. 11, 1908	
Do	Santa Rita Water & Mining Co	Ditch and pipe line	Mar. 3, 1891	(?)	Dec. 29, 1908	1905.
Do	Johnston & Pointer	Ditch	do	June 10, 1908	Jan. 30, 1909	1912.
Crook	Mercer	4 reservoirs	do	Nov. 1, 1907	Sept. 8, 1908	
Do	Gila Val. Globe & No. Ry. Co	Railroad	Mar. 3, 1875	Dec. 30, 1909	Mar. 4, 1911	1910.
Gila	Silver Ct. Prios Alto & McGollan Ry. Co	do	do	Apr. 10, 1906	Jan. 5, 1907	Jan. 1, 1908.
Do	Mexican R. R. Co	do	do	May 7, 1909	Nov. 2, 1910	
Lincoln	Martin	Ditch	Mar. 3, 1891	Jan. 12, 1907	Feb. 15, 1908	July —, 1907.
Do	El Paso & Rock Island Ry. Co	Station grounds	Mar. 3, 1875	Nov. 1, 1907	Mar. 21, 1908	July 1, 1908.
Manzano	Pedro Badaracco	Ditch	Mar. 3, 1891	Dec. 25, 1907	Mar. 3, 1908	1908.
Prescott	The Humboldt & Verde Val. Ry. Co	Railroad	Mar. 3, 1875	Feb. 23, 1906	May 9, 1910	
Do	Verde Tunnel & Smelter Co	do	do	Oct. 28, 1912	Oct. 18, 1913	
Do	Sante Fe, Prescott & Phoenix	do	do	Jan. 13, 1894	Feb. 20, 1894	
Sitgreaves	Snowflake & Taylor Irrigation Co	Reservoir and canal	Mar. 3, 1891	Jan. 29, 1892	May 6, 1897	1896.
Do	Navajo So. Ry. Co	Railroad	Mar. 3, 1875	July 11, 1911	June 24, 1912	
Tusayan	S. F., P. & P. Ry. Co	do	do	Sept 20, 1895 Apr. 4, 1896	Oct. 20, 1897	1901.
Wichita	Craterville Min. & W. P. Co	Reservoir	Mar. 3, 1891		Apr. 9, 1904	1902.

DISTRICT 4—ARIZONA, IDAHO, UTAH, WYOMING.

Ashley	Johnstin	Reservoir	Mar. 3, 1891	Mar. 19, 1902	Mar. 22, 1903	
Do	Farnswerth Can. & Res. Co	Canal	do	Aug. 26, 1908	Mar. 7, 1911	
Do	Dry Gulch Irrigation Co	Reservoir	do	Oct. 30, 1908	June 6, 1910	
Do	Wall	Conduit	do	Dec. 27, 1909	Aug. 11, 1911	
Boise	Smith Creek Reservoir & Water Co	Reservoir and canal	do	June 30, 1904	Jan. 5, 1905	
Dixie	Newcastle Reclamation Co	do	do	Dec. 27, 1909	Feb. 3, 1912	
Fishlake	Anabelle Reservoir & Irrigation Association	Reservoir	do	Feb. 21, 1898	Mar. 29, 1898	
Do	Freemont Irrigation Co	do	do	May 24, 1912	Jan 26, 1914	
Do	Dry Creek Irrigation Co	Reservoir and canal	do	July 18, 1912	Feb. 4, 1914	
Idaho	Roseberry Irrigation District	Reservoir	do	Feb. 12, 1913	Apr. 1, 1914	
Lasal	Northside High Line Ditch Co	Conduit	do	July 14, 1910	Mar. 6, 1913	
Lemhi	Vance	Reservoir	do	Mar 9, 1909	Dec. 8, 1909	
Do	Lemhi & Salmon Valley R. R. Co	Railroad	Mar. 3, 1875	Oct. 26, 1909	Aug. 5, 1912	
Do	do	do	do	Nov. 10, 1909	Jan. 16, 1912	
Do	Hill	Reservoir and conduit	Mar. 3, 1891	May 5, 1910	Aug. 16, 1913	

List of approved easements in national forests—Continued.

DISTRICT 4—ARIZONA, IDAHO, UTAH, WYOMING—Continued.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Manti	Fitzgerald	Reservoir	Mar. 3, 1891	Apr. 8, 1907	Sept. 15, 1907	
Do	Whitney	do	do	July 11, 1905	Nov. 2, 1906	
Do	Clark	do	do	Feb. 24, 1908	Aug. 11, 1908	
Do	So. Utah R. R. Co	Railroad	Mar. 3, 1875	May 12, 1908	Aug. 15, 1908	Jan. 2, 1910.
Do	do	do	do	Nov. 27, 1908	Sept. 3, 1909	
Do	do	do	do	June 15, 1909	Dec. 24, 1909	Do.
Do	do	do	do	May 5, 1909	Apr. 22, 1910	Do.
Do	Snow	Reservoir	Mar. 3, 1891	July 19, 1909	Nov. 29, 1910	
Do	Huntington Canal & Reservoir Association	do	do	Mar. 28, 1910	May 7, 1912	
Do	Price River Irrigation Co	do	do	July 22, 1912	Feb. 26, 1914	
Minidoka	Willis et al	Reservoir and canal	do	Apr. 13, 1909	Jan. 20, 1911	
Minidoka	Salt Lake & Ida. R. R. Co	Railroad	Mar. 3, 1875	Mar. 28, 1910	June 7, 1911	
Do	Sublett Creek Irrigation Co	Reservoir	Mar. 3, 1891	Oct. 23, 1911	Mar. 12, 1913	
Do	Twin Falls-Shoshone Co	Reservoir and canal	(?)	Feb. 15, 1913	Mar. 4, 1914	
Nebo	Sevier R. Land & Water Co	do	Mar. 3, 1891	May 29, 1909	May 18, 1910	
Palisade	Pine Creek Canal Co	do	do	Mar. 4, 1911	Aug. 26, 1913	
Do	Hegstid	do	do	Mar. 15, 1911	Mar. 24, 1913	
Payette	Ida. No. R. R. Co	Railroad	Mar. 3, 1875	Dec. 11, 1909	Apr. 30, 1912	
Do	do	do	do	do	do	
Do	do	do	do	Jan. 11, 1911	Feb. 28, 1912	
Salmon	Gilmore & Pittsburgh R. R. Co	do	do	Feb. 1, 1909	June 8, 1909	
Do	do	do	do	Feb. 4, 1909	do	
Do	Amonson	Reservoir	Mar. 3, 1891	Sept. 26, 1910	Oct. 10, 1913	
Do	Keating	Conduit	do	May 15, 1911	May 6, 1912	
Targhee	Yellowstone Park R. R. Co	Station grounds	Mar. 3, 1875	Mar. 19, 1907	Jan. 7, 1908	1908.
Uinta	Washington Irrigation Co	Reservoir	Mar. 3, 1891	Dec. 16, 1905	Mar. 1, 1907	
Do	Utah Ry. Co	Railroad	Mar. 3, 1875	Sept. 12, 1912	Apr. 5, 1913	
Wasatch	City of Salt Lake	Reservoir	Feb. 1, 1905	Jan. 14, 1910	Oct. 19, 1912	
Do	Alta & Jordan Valley R. R. Co	Railroad	Mar. 3, 1875	Oct. 27, 1910	Feb. 29, 1912	
Do	Josepa Agri. & Stock Co	Conduit	Mar. 3, 1891	Feb. 18, 1911	Apr. 15, 1911	
Weiser	Bohrer	do	do	Oct. 24, 1907	May 16, 1910	
Do	Allison	Reservoir	do	Jan. 9, 1909	Nov. 8, 1909	
Do	Hornet Creek Water Storage Association (Ltd.)	do	do	Sept. 10, 1909	Dec. 16, 1912	

DISTRICT 5—CALIFORNIA.

Angeles	Hamilton Irrigation Co.	Reservoir	1891	July 29, 1895	Nov. 19, 1896	No.
Do.	do.	Conduit	1891	do.	do.	No.
Do.	do.	Reservoir No. 1	1891	May 19, 1896	Nov. 8, 1901	No.
Do.	do.	Conduits	1891	do.	Sept. 24, 1901	No.
Do.	do.	Reservoir No. 4	1891	do.	Oct. 8, 1901	No.
Do.	do.	Reservoir No. 8	1891	do.	do.	No.
Do.	do.	Reservoir No. 9	1891	do.	do.	No.
Do.	do.	Reservoir No. 6	1891	do.	do.	No.
Do.	do.	Reservoir No. 7	1891	do.	do.	No.
Do.	do.	Reservoir No. 3	1891	do.	do.	No.
Do.	do.	Reservoir No. 2	1891	do.	Sept. 24, 1901	No.
Do.	South Antelope Valley Irrigation Co.	Conduits	1891	Feb. 12, 1897	June 12, 1899	Yes.
Do.	do.	Reservoir	1891	Oct. 31, 1897	Feb. 16, 1901	No.
Do.	Chicala Water Co.	Reservoirs and conduits	1891	Jan. 15, 1898	Nov. 21, 1899	No.
Do.	do.	do.	1891	do.	Apr. 18, 1899	No.
Do.	Etiwanda Water Co.	Conduit	1891	Sept. 6, 1898	Oct. 4, 1899	Yes.
Do.	Wilcox	Reservoir	1891	Nov. 20, 1901	Feb. 8, 1905	No.
Do.	do.	Conduits	1891	do.	do.	No.
Do.	Palmer, Noah, Haliday	do.	1891	Feb. 15, 1902	July 11, 1902	Yes.
Do.	Muscoy Water Co.	do.	1891	June 2, 1905	Sept. 20, 1905	Yes.
Do.	Pac. El. R. W. Co.	Railroad	1875, 1899	June 26, 1905	Sept. 13, 1907	Yes.
Do.	Etiwanda Water Co.	Conduit	1891	June 29, 1905	Oct. 9, 1905	Yes.
Do.	Arrowhead Reservoir & Power Co.	Reservoir and conduits	1891	Oct. 28, 1905	May 8, 1907	No.
Do.	Hodges	Conduit	1891	Sept. 22, 1906	Oct. 23, 1908	
Do.	do.	do.	1891	Nov. 7, 1906	do.	
Do.	Los Angeles Water Co.	Reservoir and conduit	1891	Apr. 19, 1907	1910	
Do.	Clapp	Conduit	1891	Feb. 11, 1908	July 3, 1908	Yes.
Do.	Muscoy Water Co.	Reservoir and conduits	1891	July 13, 1909	Dec. 3, 1910	
Do.	Arrowhead Reservoir & Power Co.	do.	1891	Feb. 25, 1910	May 20, 1913	
Do.	Hesperia Land & Water Co.	Conduit	1891	Oct. 13, 1911	May 29, 1913	
Do.	Appleton Land & Water Co.	do.	1891	Dec. 11, 1911	do.	Yes.
Do.	Atchison, Topeka & Santa Fe Ry. Co.	Railroad	1875	Sept. 24, 1912	June 20, 1913	
Cleveland	So. Cal. Mountain Water Co.	Reservoir	1891	Mar. 15, 1896	May 9, 1896	Yes.
Do.	do.	Conduit	1891	do.	Nov. 21, 1898	Yes.
Do.	Escondido Mutual Water Co.	do.	1891	Sept. 4, 1895	Mar. 25, 1908	Yes.
Do.	So. Cal. Mt. Water Co.	Reservoir	1891	Feb. 6, 1896 July 9, 1907	Nov. 22, 1898	Yes.
Do.	Lake Hemet Water Co.	do.	1891	Sept. 8, 1896	Aug. 26, 1907	Yes.
Do.	Sweet-Water, Water Co.	do.	1891	Dec. 13, 1902	Dec. 12, 1908	No.
Do.	Stansbury	Reservoir and conduit	1891	Apr. 9, 1908	Oct. 19, 1908	
Do.	So. Cal. Mt. Water Co.	Conduit	1891, 1901	Oct. 22, 1908	July 9, 1910	
Do.	Stansbury	do.	1891	Aug. 20, 1909	Feb. 11, 1911	Yes.
Do.	Ramona Power & Irrigation Co.	do.	1891	Mar. 24, 1910	Oct. 20, 1910	
Do.	San Diego & Arizona Ry. Co.	Railroad	1875	June 22, 1910	Mar. 18, 1911	
Do.	Vulcan Land & Water Co.	Reservoir and conduits	1891	Jan. 2, 1912	Jan. 16, 1913	
Inyo	Inyo Canal Co.	Conduit	1891	Mar. 8, 1892	Aug. 23, 1892	Yes.
Do.	Big Pine Surplus Storage Co.	Reservoir	1891	Aug. 11, 1900	Oct. 20, 1900	Yes.
Do.	Thorington	do.	1891	Jan. 11, 1907	Aug. 20, 1908	Yes.
Do.	Los Angeles & Owens Valley R. R.	Railroad	1875	Mar. 26, 1907	Oct. 26, 1909	

List of approved easements in national forests—Continued.

DISTRICT 5—CALIFORNIA—Continued.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Inyo	Smith	Reservoir	1891	Apr. 1, 1907	Dec. 20, 1907	Yes.
Do	Los Angeles, city of	Pipe line and power station	1905	July 27, 1908	Jan. 18, 1909	Jan. 1, 1909.
Do	Nevada-California Ry. Co	Railroad	1875		June 21, 1911	
Do	do	do	1875	July 22, 1910	Mar. 7, 1911	
Kern	Kern River Co	Reservoir and conduit		Nov. 3, 1898	Jan. 18, 1899	
Do	Los Angeles, city of	do	1905		Dec. 7, 1908	
Do	do	Conduit (Haiwee)		May 8, 1907	Jan. 21, 1909	Yes.
Do	do	Conduit (Hogback)	1906	June 21, 1907	Sept. 10, 1907	Yes.
Do	Los Angeles & Owens Valley R. R		1875	June 25, 1907	Oct. 26, 1909	
Do	Merritt	Conduit	1891	Mar. 10, 1908	Yes	
Do	Los Angeles, city of	do	1905	May 12, 1909	Feb. 2, 1912	
Do	do	do	1905	June 3, 1909	Jan. 8, 1912	
Do	do	Reservoir	1905	do	Dec. 14, 1911	
Do	do	do	1905	do	Jan. 20, 1912	
Do	Nevada-California Ry. Co	Railroad	1875	Mar. 4, 1911	May 8, 1912	Oct. 30, 1910.
Do	do	do	1875	do	June 28, 1912	Do.
Do	Los Angeles, city of	Reservoir	1905	Aug. 24, 1911	Dec. 16, 1911	
Do	Mohave & Bakersfield R. R. Co	Railroad	1875	Mar. 25, 1912	Oct. 25, 1913	
Do	do	do	1875	do	do	
Do	Kern River Co	Canal	1891	Jan. 19, 1905	Nov. 27, 1905	Yes.
Do	do	do	1891	do	Apr. 14, 1899	Yes.
Klamath	Langford	Conduits	1905	Dec. 27, 1911	July 21, 1913	
Lassen	Purser	Reservoir	1891	Sept. 11, 1894	Dec. 8, 1894	No.
Do	do	do	1891	May 11, 1895	May 8, 1896	Yes.
Do	do	do	1891	do	do	Yes.
Do	Central Pacific Ry. Co	Railroad	1875	Feb. 9, 1911	Mar. 4, 1914	
Do	do	do	1875	Mar. 23, 1912	Dec. 12, 1913	
Modoc	Williams	Reservoir	1891	Sept. 11, 1895	Jan. 13, 1896	Yes.
Do	Essex & Salisbury	do	1891	Oct. 30, 1896	Jan. 5, 1897	Yes.
Do	Dorris et al	do	1891	Feb. 27, 1901	May 30, 1902	Yes.
Do	Caldwell	do	1891	June 4, 1902	Dec. 17, 1902	No.
Do	do	Reservoir and ditch	1891	Jan. 10, 1903	Mar. 30, 1904	No.
Do	Howell	do	1891	Mar. 10, 1903	Aug. 26, 1903	
Do	Dorris et al	Reservoir	1891	May 11, 1903	Apr. 19, 1904	
Do	Williams	do	1891	June 8, 1903	Jan. 12, 1904	No.
Do	Caldwell	do	1891	Aug. 31, 1903	Mar. 30, 1904	No.
Do	do	do	1891	Aug. 3, 1903	Mar. 30, 1904	No.
Do	Duncan	Reservoir and conduits	1891	Dec. 1, 1903	Nov. 25, 1904	Yes.
Do	Dorris et al	do	1901	Jan. 2, 1905	May 8, 1902	Yes.
Do	Lauer	do	1891	Dec. 21, 1907	June 12, 1908	No.

Do	Goose Lake & Southern Ry. Co	Railroad	1875	Nov. 30, 1908	June 15, 1909	
Do	Modoc Northern Ry. Co	do	1875	Nov. 1, 1909	May 17, 1911	
Do	Central Pacific Ry. Co	do	1891	Aug. 25, 1910	May 23, 1911	
Do	Goose Lake & Southern Ry. Co	do	1875	Oct. 12, 1909	July 9, 1912	
Do	Lauer	Reservoir	1891	Feb. 9, 1893	June 8, 1893	Yes.
Do	do	Conduit	1891	do	do	Yes.
Mono	Alpine Land & Reservoir Co	Reservoir	1891	June 15, 1898	Jan. 16, 1901	Yes.
Do	do	do	1891	do	do	No.
Do	do	do	1891	do	do	No.
Do	do	do	1891	do	do	Yes.
Do	do	do	1891	Jan. 28, 1901	Jan. 28, 1901	Yes.
Do	do	do	1891	do	do	Yes.
Do	do	do			Jan. 16, 1901	No.
Plumas	Western Pacific Ry. Co	Railroad	1875	July 30, 1903 Dec. 2, 1904	Mar. 15, 1907	
Do	do	do	1875	Mar. 3, 1905	Jan. 19, 1907	
Do	do	do	1875	Oct. 15, 1906	Mar. 13, 1908	
Do	do	do	1875		Aug. 12, 1908	
Do	do	Railroad (station grounds)	1875	Sept. 18, 1909	Dec. 23, 1910	
Do	do	Railroad	1875	Dec. 14, 1909	Mar. 15, 1911	
Do	do	do	1875	do	do	
Do	do	do	1875	Oct. 28, 1910	Nov. 11, 1912	
Do	do	do	1875		Apr. 14, 1913	
Do	do	Railroad (station grounds)	1875	Feb. 13, 1911	July 14, 1913	
Santa Barbara	Antelope Valley Water Co	Reservoir	1891	Nov. 19, 1894	Apr. 3, 1895	No.
Do	do	Conduit	1891	Dec. 6, 1894	Feb. 18, 1895	No.
Do	do	Reservoir	1891	Feb. 2, 1895	Nov. 4, 1895	No.
Do	South Antelope Valley Irrigation Co	Conduit	1891	Jan. 17, 1898	June 12, 1899	Yes.
Do	Elizabeth Lake Reservoir Co	Reservoir	1891	July 3, 1901	Dec. 17, 1901	No.
Do	do	Conduit	1891	do	June 24, 1902	No.
Do	Los Angeles, city of	Aqueduct	1906	Jan. 25, 1907	Apr. 27, 1907	
Do	do	Reservoir	1906	May 4, 1907	Sept. 10, 1907	
Do	Los Angeles & Santa Fe Short Line R. R. Co	Railroad	1875	June 22, 1908	June 7, 1909	
Do	Gipp	Conduit	1891	Sept. 19, 1908	Mar. 10, 1910	Yes.
Do	Bakersfield & Ventura R. R. Co	Railroad	1875	May 31, 1910	Jan. 6, 1911	
Sequoia	Mount Whitney Pr. Co	Reservoir	1891	Nov. 10, 1900	Dec. 28, 1900	Yes.
Shasta	Trinity Gold M. & R. Co	Conduit	1905	Dec. 6, 1909	Feb. 21, 1911	Yes.
Sierra	Fresno Flume & Irrigation Co	do	1891	Dec. 9, 1893	May 9, 1906	Yes.
Do	San Joaquin Electric Co	do	1891	July 10, 1901	Oct. 25, 1901	No.
Do	do	Reservoir	1891	Apr. 2, 1900	Apr. 25, 1901	Yes.
Stanislaus	Sierra Ditch & Water Co	do	1891	(?)	Oct. 1, 1907	No.
Do	Yosemite Valley R. R. Co	Railroad	1875	Feb. 16, 1905	Feb. 5, 1909	Yes.
Do	Patterson	Reservoir	1891	(?)	Feb. 28, 1908	No.
Do	Hetch Hetchy & Yosemite Valley Ry. Co	Railroad	1875	Apr. 11, 1905	Sept. 27, 1905	Yes.
Do	Sierra Ditch & Water Co	Reservoir	1891	Mar. 13, 1905	July 30, 1908	
Do	Summers, H. C. & C. F	do	1891	Apr. 19, 1907	Sept. 20, 1907	No.
Do	Yosemite Valley R. R. Co	Station grounds	1875	Oct. 6, 1908	Mar. 29, 1913	
Do	Union Water Co	Reservoir	1891	June 6, 1902	Jan. 10, 1903	Yes.
Tahoe	Boca & Loyalton R. R. Co	Railroad	1875	Jan. 7, 1908	Jan. 16, 1908	Yes.
Do	do	do	1875	Nov. 1, 1910	Nov. 25, 1912	
Trinity	Gibson	Conduit	1905	Feb. 1, 1907	Oct. 9, 1907	Yes.

List of approved easements in national forests—Continued.

DISTRICT 6—ALASKA, OREGON, WASHINGTON.

Forest.	Grantee.	Use.	Act.	Date of filing with General Land Office.	Date of granting easement by General Land Office.	Construction completed.
Cascade	Oregon Eastern Ry. Co	Railroad	Mar. 3,1875	July 16,1909	Mar. 5,1912	
Do	do	do	do	Sept. 29,1906	June 13,1908	
Do	do	Station grounds	do	May 8,1911	Oct. 30,1912	
Chelan	Entiat Improvement Co	Conduit	Mar. 3,1891	Mar. 31,1896	Aug. 25,1896	
Do	Chelan Trans. & Sm'l. Co	Railroad	Mar. 6,1875	May 2,1906	May 28,1902	
Do	Wapato Irrigation Co	Reservoir and conduit	Mar. 3,1891	July 27,1906	June 17,1907	
Do	Lucern & Aurelia Crown Ry	Railroad	Mar. 3,1875	Dec. 31,1908	Mar. 24,1913	
Do	Lake Chelan Land Co	Reservoir and conduit	Mar. 3,1891	July 20,1910	Mar. 17,1911	
Chugach	V. M. P. & M. Ry. Co	Railroad	May 14,1898	Apr. 16,1906	June 16,1908	
Do	Copper River & Northwestern Ry. Co	do	do	Dec. 26,1906	Feb. 21,1914	
Do	do	Railroad and station grounds	do	Mar. 25,1909	do	
Do	do	Railroad	do	Apr. 4,1910	do	
Colville	Wash. & G. N. Ry. Co	do	June 4,1898	(?)	June 23,1899	
Do	do	do	Mar. 3,1875	Jan. 2,1907	June 11,1908	
Do	Great Northern Ry. Co	do	do	Apr. 17,1911	Mar. 22,1912	
Crater	Fishlake Water Co	Reservoir	Mar. 3,1891	May 11,1905	Feb. 8,1907	Date unknown.
Do	do	Reservoir and conduit	do	Oct. 23,1906	June 12,1907	Do.
Do	Oregon Trunk Ry. Co	Railroad	Mar. 3,1875	Feb. 6,1911	July 2,1913	
Deschutes	Little Deschutes Irrigation Co	Canal and ditch	Mar. 3,1891 May 11,1898	Feb. 7,1902	June 30,1903	
Do	Deschutes Irrigation & Pr. Co	Canal	Mar. 3,1891 May 11,1898	July 8,1904	Mar. 25,1908	
Do	O. E. Ry. Co	Railroad	Mar. 3,1875	Nov. 13,1907	Jan. 24,1908 Jan. 22,1909	
Fremont	Lapham	Reservoir	Mar. 3,1891	June 17,1903	July 18,1905	Incomplete.
Do	Wisham	Reservoir	do	Dec. 28,1904	Apr. 1,1905	1908.
Do	Woodward	Reservoir and ditches	do	May 3,1905	Jan. 17,1906	1908.
Do	Harpold	do	do	Oct. 27,1906	Feb. 27,1908	1908.
Do	McKendree	Ditch	do	May 10,1907	Jan. 9,1908	June —, 1913.
Do	Portland Irrigation Co	Reservoir and conduit	do	Aug. 3,1908	June 11,1909	
Do	Moss	Reservoir	do	Feb. 19,1909	Apr. 30,1910	
Do	Withers et al	Reservoir and ditches	do	Sept. 28,1911	Mar. 8,1913	
Do	Stone	Reservoir and conduit	do	Aug. 6,1912	Oct. 25,1913	
Minam	Little Minam & Little Creek Irrigation Co	Ditch	do	May 25,1905	Oct. 9,1906	
Do	do	do	do	Aug. 9,1907	Dec. 11,1908	
Do	Powder Valley Irrigation Co	Reservoir and conduits	do	May 17,1911	May 22,1912	
Olympic	City of Port Angeles	Pipe line	Feb. 1,1905	Jan. 25,1907	Aug. 20,1907	No.
Oregon	M. Ph. Irrigation Co	Conduits	Mar. 3,1891	Feb. 18,1905	Mar. 16,1906	1907.
Do	City of Dufur	Pipe lines	Feb. 1,1905	Jan. 31,1906	June 30,1906	1908.

Do.	Keep	Ditch	Mar. 3, 1891	Oct. 31, 1905	Nov. 27, 1906	
Do.	do	Pipe line and ditch	do	Dec. 7, 1906	Oct. 12, 1909	
Do.	Glacier Irrigation Co	Ditch	do	Aug. 17, 1906	Apr. 22, 1907	No.
Do.	Mount Hood Railway & Pr. Co	Railroad	Mar. 3, 1875	July 26, 1907	Sept. 16, 1909	
Paulina	Little Deschutes Irrigation Co	Canal	Mar. 3, 1891	Feb. 7, 1902	June 30, 1903	No.
Do.	O. E. Ry. Co	Railroad	Mar. 3, 1875	Nov. 13, 1907	Jan. 22, 1909	
Do.	Deschutes Land Co	Reservoir	Mar. 3, 1891	Jan. 27, 1909	Mar. 24, 1913	
Do.	O. E. Ry. Co	Railroad	Mar. 3, 1875	Jan. 10, 1910	Apr. 19, 1912 Mar. 15, 1912	
Do.	Deschutes Land Co	Conduit	Mar. 3, 1891	Mar. 22, 1910	Dec. 8, 1913	
Do.	O. E. Ry. Co	Railroad	Mar. 3, 1875	July 7, 1910	Jan. 9, 1912	
Do.	O. T. Ry. Co	do	do	Aug. 2, 1910	Oct. 16, 1912	
Do.	do	do	do	Jan. 5, 1910	May 16, 1911	
Rainier	Symonds & Symonds	Reservoir and ditch	Mar. 3, 1891		June 13, 1908	No.
Do.	N. Coast Ry. Co	Railroad	Mar. 3, 1875	June 19, 1906	Mar. 15, 1907	No.
Do.	do	do	do	Oct. 31, 1906	June 7, 1907	No.
Do.	Tacoma Eastern Ry. Co	do	do	Jan. 7, 1909	Jan. 10, 1911	
Santiam	Corvallis & Eastern Ry. Co	do	do	Jan. 5, 1901	Apr. 22, 1907	No.
Siskiyou	Grants Pass & Pacific Ry. Co	do	do	Feb. 6, 1911	Nov. 27, 1911	
Siuslaw	Willamette Pacific Ry. Co	do	do	Mar. 25, 1912	Apr. 28, 1914	
Do.	do	do	do	do	Apr. 29, 1914	
Snoqualmie	Seattle-Boston Copper Co	do	do	Feb. 15, 1906	Mar. 5, 1907	
Do.	Washington Railway & Electric Co	do	do	Feb. 29, 1908	Oct. 20, 1908	
Umpqua	Oregon Southern Ry. Co	do	do	Feb. 10, 1904	Feb. 2, 1905	
Washington	B. B. & B. C. Ry. Co	do	do	Apr. 11, 1904	Apr. 11, 1904	
Do.	Cascade Valley Ry. Co	do	do	Nov. 5, 1906	Nov. 2, 1907	
Do.	Thunder Cr. Tr. & Sm. Co	do	do	Oct. 22, 1908	Nov. 28, 1908	
Do.	do	do	do	Jan. 12, 1909	June 24, 1909	
Do.	Skagit Power Co	do	do	Oct. 25, 1909	Jan. 16, 1911	
Wenaha	City of Pendleton	Pipe line	Feb. 1, 1905	Feb. 8, 1911	May 29, 1913	
Wenatchee	C. M. & P. S. Ry	Railroad	Mar. 3, 1875	Sept. 10, 1906	May 6, 1908	July —, 1909.
Do.	do	do	do	Feb. 8, 1907	Apr. 6, 1907	
Do.	Sarah S. Beattie Leadbetter	Ditch	Mar. 3, 1891	Dec. 31, 1909	July 29, 1911	
Do.	Great Northern Ry. Co	Railroad	Mar. 3, 1875	Aug. 23, 1910	Sept. 13, 1911	
Whitman	Killamacue Lake Reservoir, R. C. I. Co	Reservoir and conduit	Mar. 3, 1891	Aug. 30, 1905	Jan. 8, 1906	1905.
Do.	Sumpter Valley Ry. Co	Railroad	Mar. 3, 1875	Mar. 3, 1905	Aug. 13, 1909	Date unknown.
Do.	Baker City	Reservoir	Feb. 1, 1905	Dec. 27, 1906	Dec. 6, 1907	Do.
Do.	Eilbertsen	do	Mar. 3, 1891	May 3, 1907	Aug. 21, 1908	
Do.	Sumpter Valley Ry. Co	Railroad	Mar. 3, 1875	Sept. 20, 1912	Feb. 26, 1914	

EXHIBIT V.—*Construction of roads by the Forest Service under the 10 per cent item of the agricultural appropriation bill.*

State.	Miles constructed by Forest Service to Dec. 1, 1913.	Miles in project to be constructed by Forest Service.
District 1.		
Idaho	9.83	37.08
Montana	69.50	96.50
North Dakota	1.50	1.50
South Dakota	14.25	14.25
Washington	1.50	13.00
Total	86.58	162.33
District 2.		
Colorado	40.07	74.42
Kansas	1.25	4.00
Michigan	.....	.....
Minnesota	.....	4.00
Nebraska	1.25	2.75
South Dakota	5.27	35.25
Wyoming	13.86	60.49
Total	61.70	180.91
District 3.		
Arizona	46.50	50.00
New Mexico	42.75	91.00
Oklahoma	12.00	18.00
Total	101.25	159.00
District 4.		
Arizona	35.00	62.00
Idaho	31.50	114.90
Nevada	15.00	67.75
Utah	24.15	40.25
Wyoming	15.47	47.20
Total	121.12	332.10
District 5.		
California	34.50	123.50
District 6.		
Alaska	1.30	17.90
Oregon	69.98	193.80
Washington	11.80	53.00
Total	83.08	264.70
District 7.		
Arkansas	5.07	30.93
Florida	2.25	38.00
Total	7.32	68.93
Grand total	495.55	1,291.47

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